SEPTEMBER 1952

PLEASE ROUTE THIS COPY TO	
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Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.
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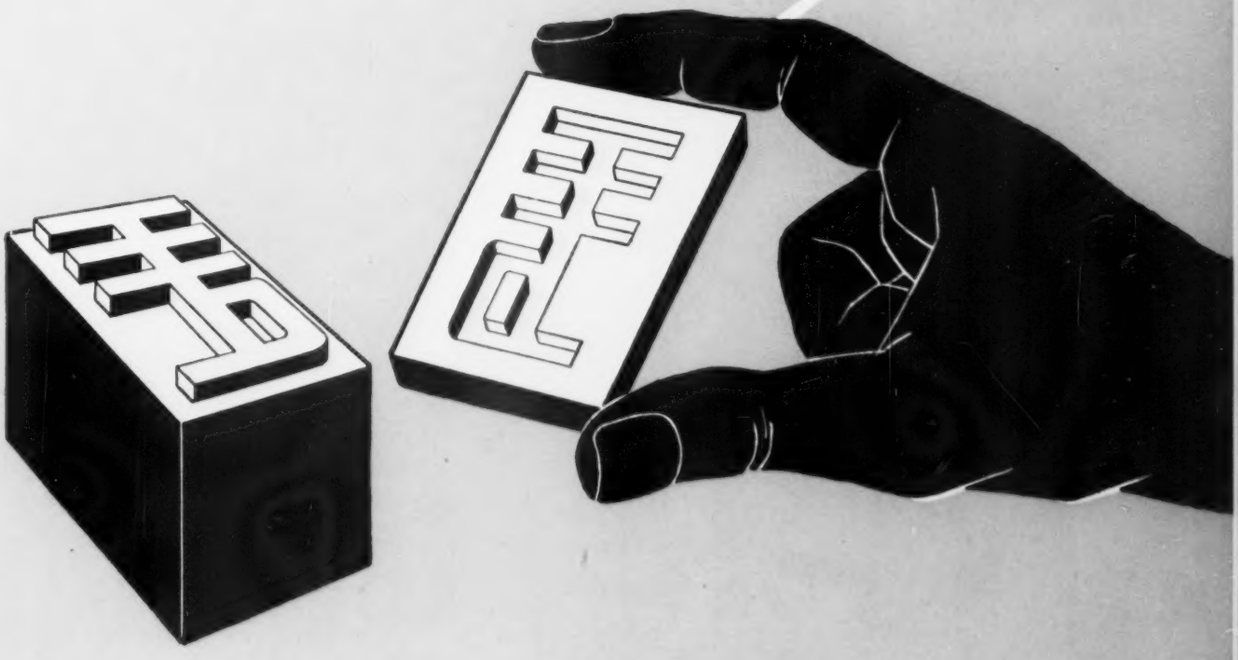
PRINTING EQUIPMENT *Engineer*



AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Tempo Bold Condensed
Garamond Light
Coronet Bold
Bodoni Modern Italic
Mayfair Cursive
Radiant Bold Condensed
Bodoni Modern
UMBRA
Mandate
Radiant Bold
DELPHIAN
Bodoni Campanile
Tempo Medium Italic
Karnak Black
Coronet Light
Tempo Bold
Hauser Script
Radiant Medium
Garamond Bold Italic
Stellar Bold
Tempo Black
Eden Light
Bodoni Campanile Italic
Radiant Heavy

Ludlow Typefaces

One thing that makes the Ludlow so versatile and so useful is the variety of typefaces available in Ludlow matrices. There are many Ludlow typefaces of distinctive modern design, as well as those traditional typefaces which have proved their worth and will always be with us. Ludlow typefaces include numerous attractive scripts and italics, which are most popular among advertisers and users of good printing. There is a Ludlow typeface for practically any requirement of good typography and attention value.

Send for a copy of this new Ludlow typeface folder

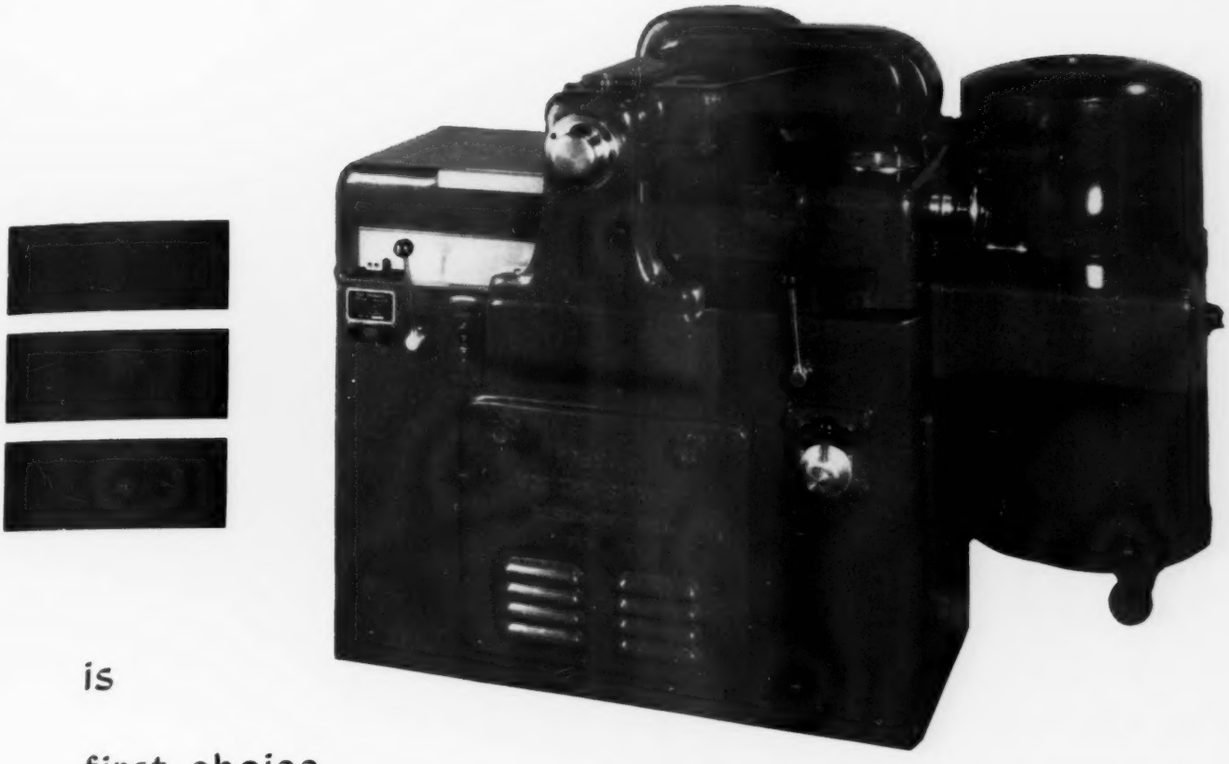
The new folder illustrated above suggests many of the typefaces to be had in Ludlow matrices. The inside pages show simple but effective color schemes and typographic arrangements that could be duplicated in your own plant with a Ludlow installation.

Many of our good users consider Ludlow typefaces valuable assets in their service to customers. Numerous plants depend entirely upon the Ludlow for their display and miscellaneous composition, and operate most profitably with Ludlow facilities for general display, lining typefaces, ruleform, etc. Their satisfactory experience may be yours also.

Ludlow Typograph Company · **2032 Clybourn Avenue, Chicago 14, Illinois**

For Those Who Take Pride

In Fine Printing . . .



is

first choice

in precision flat

plate

shaving

machinery

● *It takes the best in machinery as well as the best of skilled craftsmen to produce consistently fine printing. That's why the Sta-Hi Premier Rotary Shaver is used by progressive newspapers and commercial graphic arts plants the world over.*

● *The Premier is superbly engineered, ruggedly built for years and years of precision, trouble-free, economical performance.*

● *It shaves stereotypes, electrotypes, zinc, wood or metal base—with micrometer accuracy. And it helps produce a printed product of which you may be justly proud!*

registered trade mark STA-HI

STA-HI CORPORATION 235 West Washington Boulevard, Box 152, Whittier, California

More Colorful Than Ever!

NIAGARA FALLS GAZETTE
boosts color with GOSS Headliners

As mighty Niagara roars on, it uncovers new rock formations that make the Falls *more colorful than ever!*

Likewise, the *Niagara Falls Gazette* has increased its facilities to provide a more attractive paper for its readers. Effecting this change are six GOSS Headliners, one pair of Uni-Flow folders, and an extra color unit. The combined advantages of this equipment — *fingertip Colortrol, fully enclosed automatic lubrication, preloaded cylinder and form roller bearings,* and *enclosed oil-tight folding motion* — have increased the frequency and quality of COLOR advertisements in the Gazette . . . stepped up the number of pages . . . speeded up deliveries to subscribers . . . and helped to boost CIRCULATION!

THE GOSS PRINTING PRESS COMPANY

1535 S. PAULINA ST., CHICAGO 8, ILL.

Goss Printing Press Co. Ltd., Preston, England

AMERICA'S LEADING NEWSPAPERS ARE PRINTED ON GOSS PRESSES

TIMKEN® bearings help single facer take 200 impacts per second under 6000-lb. load!

CORRUGATING rolls on this new heavy-duty single facer spin at high speed under 6,000 pounds pressure. Their teeth create impacts at the rate of 200 per second!

To help its single facer take these shock loads in stride, F. X. Hooper Company mounts the corrugating rolls on Timken® tapered roller bearings. The pressure roll and worm gear shafts in the control mechanism are also Timken bearing equipped.

Timken bearings carry the heavy shocks because the loads are spread on a line of contact between the rollers and races. And the bearings are case hardened to give them tough, shock-resistant cores and hard, wear-resistant surfaces. There's less chance of breakdown. Maximum production is assured.

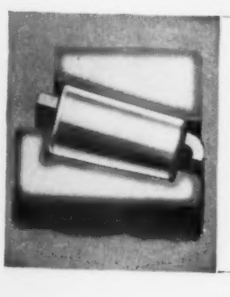
Roll accuracy is maintained with Timken bearings because they have minimum eccentricity and eliminate end play. Corrugations come out uniform and perfect. Gears in the control mechanisms mesh smoothly, accurately, with little wear.

Friction is practically eliminated with Timken bearings due to their true rolling motion and incredibly smooth surface finish. Rolls start easier, turn faster. And because they hold shafts and housings concentric, Timken bearings make closures more effective, keeping lubricant in—dirt and dust out.

No other bearing can offer you all the advantages of Timken bearings. Be sure to specify them for the machines you build or buy. Look for the trade-mark "Timken" on every bearing. The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.

F. X. HOOPER COMPANY mounts corrugating and pressure rolls of its heavy-duty single facer on Timken tapered roller bearings to take the terrific shock loads.



GREATER LOAD AREA

Because the load is carried on the *line* of contact between rollers and races, Timken bearings carry greater loads, hold shafts in line, wear longer.

The Timken Roller Bearing Company is the acknowledged leader in: 1. advanced design; 2. precision manufacturing; 3. rigid quality control; 4. special analysis steels.

TIMKEN

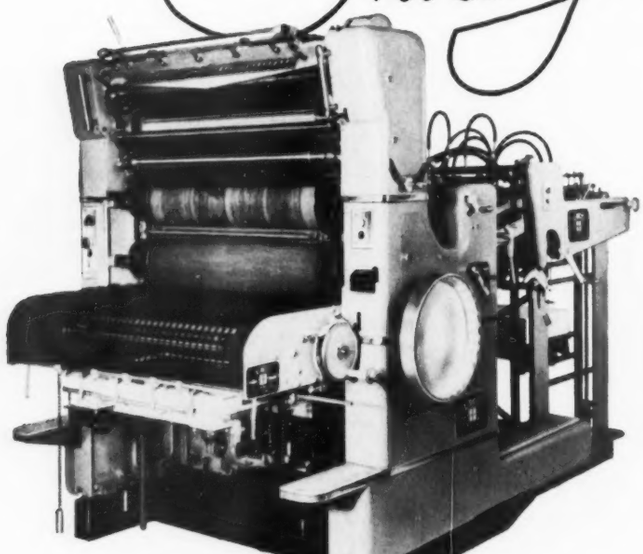
TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

NOT JUST A BALL ○ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL ◎ AND THRUST →◎← LOADS OR ANY COMBINATION ✳

For Quality as well as Quantity

Investigate



THE E.B.CO 22" X 34" OFFSET PRESS

Accessible
Positive Controls
High Production
Fine Registration

Write today for descriptive literature

MILLER PRINTING MACHINERY CO.
1103 REEDSDALE ST. PITTSBURGH 33, PA.

The Manufacturer of Miller Letterpresses

PRINTING EQUIPMENT *Engineer*

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

Volume 82 **Number 12**

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Printed in U. S. A.

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September 1952

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FOR COMPOSING ROOM $AVING$

LOOK into the advantages of
MORRISON *Saw Trimmer and Allied Machines*

MORRISON PLATE BEVELER

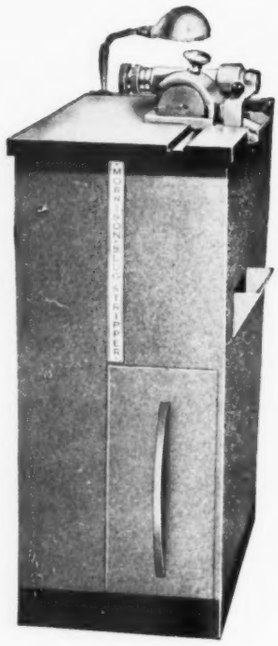
Puts a perfect, burr-free shoulder or bevel on all plates. Cutters work from edge of plate, not the top.

MORRISON
Model 3-A Saw Trimmer

Today's more versatile saw. Clamps the work **behind gauge** for improved visibility, easier handling, and greater accuracy. A must for economy-minded composing rooms.

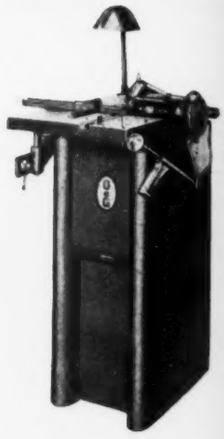
MORRISON

Slug Stripper



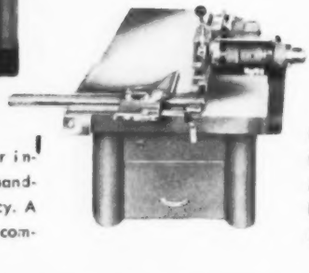
Use this ONE day in your plant and you'll never be without it . . . you'll find it a great time-saver for simple, fast corrections on zincs, electros or shell stereotypes or for use on float lines. No mortising of base necessary—just strip the face of slug line or type character to electrotype, zinc or whatever thickness desired. Holds any slug from one point to 72 points in thickness, and from single character to 30 picas in length.

MORRISON MODEL 45 SAW TRIMMER



Pistol grip saw blade attachment offers "Trigger Speed" saw adjustment, and many other valuable time-saving features.

MORRISON ROUTER AND TYPE HIGH PLANER



MORRISON MODEL "45" SPECIAL

Low cost, embodies many features of Model "45" and Model 3-A Saw Trimmer "Behind the Gauge" work clamp. Also in cabinet model.

Saves correction and make ready time by having all cuts precision height. Has exclusive Morrison micrometer height gauge.

Other Morrison Equipment includes: Strip material cabinets, waste receptacles, Universal saw blades, router bits, and jig saw blades

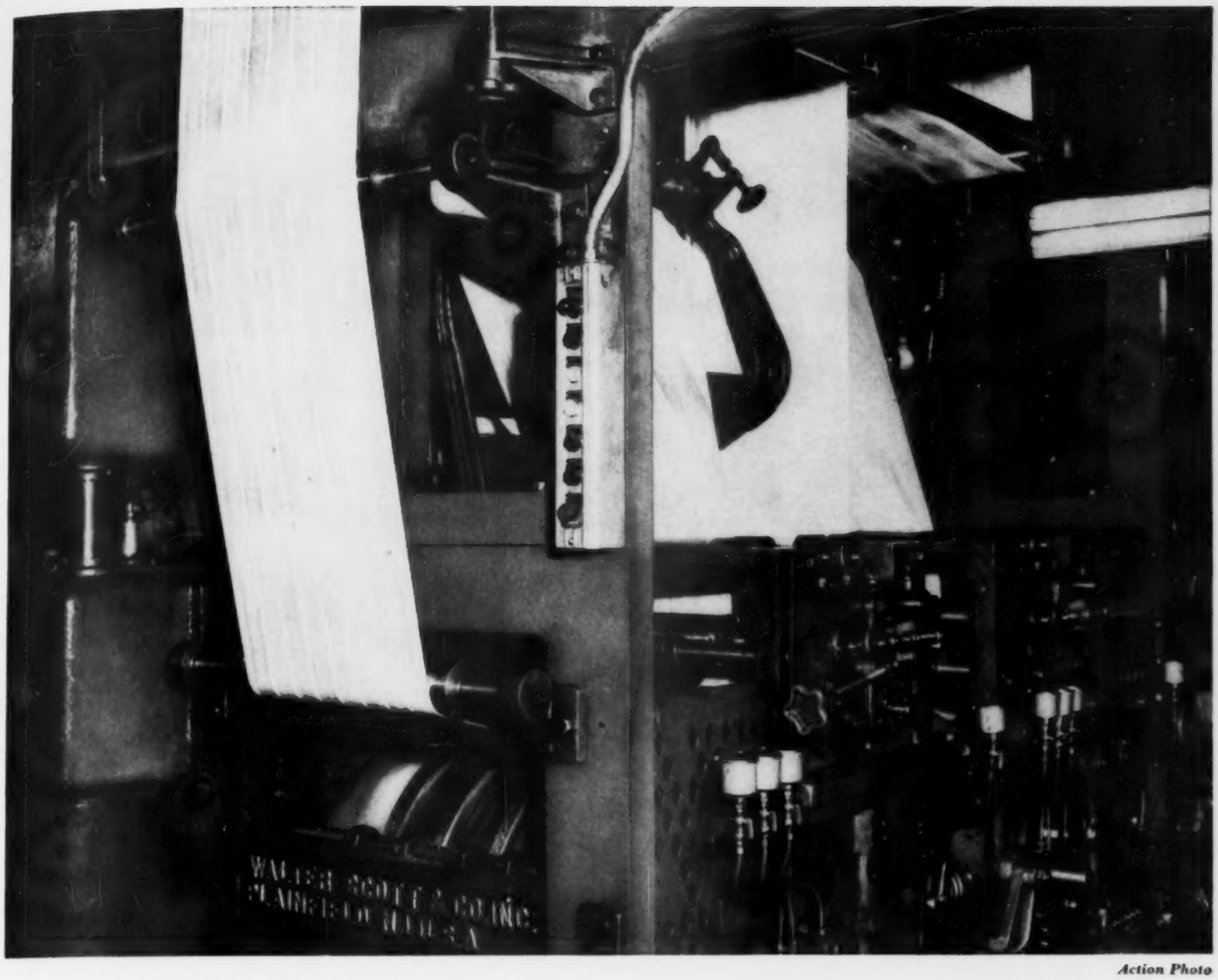
Symbol of Operating Economy

THE MORRISON COMPANY MILWAUKEE WIS

THE *Morrison* COMPANY

PRECISION MACHINES FOR THE GRAPHIC ARTS INDUSTRY

125 W. Melvina Street, Milwaukee 12, Wisconsin



Action Photo

No Reader Likes a Poorly Folded Newspaper!

SCOTT "Extra Hi-speed" Folders assure neatly folded newspapers. The only folder built with a 3 to 2 ratio, i.e., a three-surface folding cylinder with patented expansion bands and co-acting two-surface cutting cylinders. "Straight" or "collect", book form or sectional, makes possible the successful handling of all newspapers from a 4-page tabloid to a 96-page full size newspaper. No other folder has this wide range capacity.

SCOTT Folders start with the units without lost motion to break webs. The number of pages being printed does not restrict the speed of the folders. When you use a SCOTT 3 to 2 ratio folder, the inside section of a collated newspaper does not protrude beyond the outside section. All other folders are 2 to 1 ratio and cut the outside section shorter, causing poorly folded newspapers.

The features of SCOTT Folders assure the publishers, equipped with SCOTT Presses, the greatest performance in delivering a well printed and neatly folded newspaper.

Modernizing . . . Expanding . . . Planning a new plant . . . Consult SCOTT on the fastest, most versatile newspaper press equipment ever developed. We invite your inquiries.

Buy with Confidence . . . Buy SCOTT

15-L-14

WALTER SCOTT & CO. INC.
PLAINFIELD, NEW JERSEY

SCAN-A-GRAVINGS can help you get your paper out faster ...and smooth out back-shop schedules

SAVE MAKE-UP TIME—No need to hold up forms for late cuts. Lock up forms with blank bases in position as soon as the picture sizes are known. Mount Scan-a-gravings, when ready —then mat, stereotype and roll the presses!

SMOOTH OUT STEREO AND PRESS ROOM SCHEDULES—No waiting —no bottlenecks when late news photos are "Scan-a-graved." Cast stereos with blanks of proper height—mount Scan-a-gravings *after* stereos are on press and print direct.

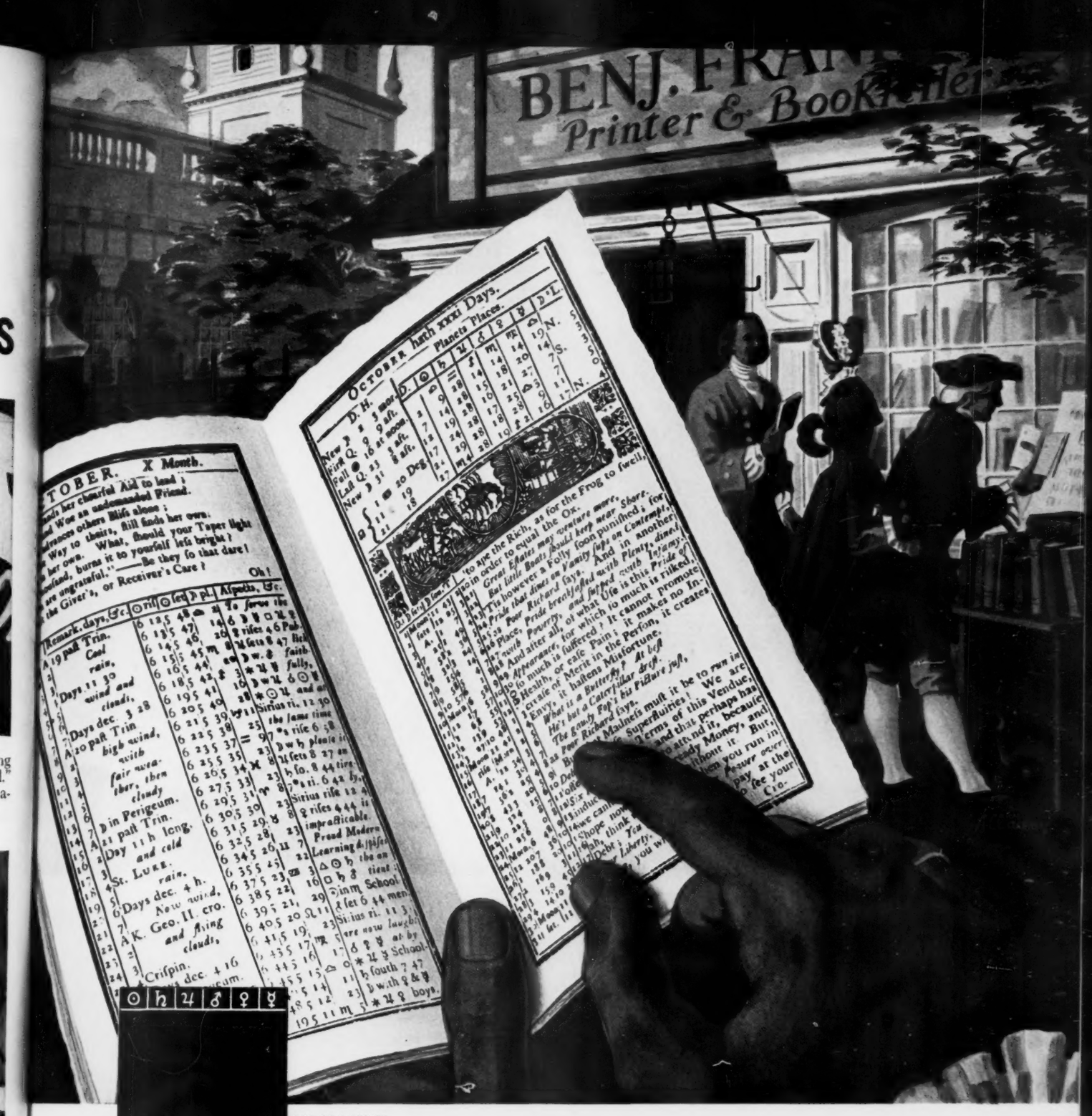
APPEARANCE IS IMPROVED when you print direct from Scan-a-gravings. By mounting Scan-a-gravings on stereos there is no loss in quality from chase to press. Good printing results in clear, sharp reproduction that pleases readers.

SCAN-A-GRAVINGS ARE EASY TO USE—They're produced by an electronic machine that's simple, fast, clean and convenient. Mount them on wood or metal base with double-sided Scotch tape in a matter of seconds and they're ready to print.

• ***Want details about how Scan-a-gravings can help you get your paper out faster and easier?*** *There's a Fairchild representative in your area who will be glad to give you the story at your convenience. To arrange a call from him, or to get more information direct, write today to* Fairchild Camera and Instrument Corporation, 88-06 Van Wyck Boulevard, Jamaica 1, New York, Department 100-45E.

FAIRCHILD

SCAN-A-GRAVER



ONE OF A SERIES

"...as *Poor Richard* says"

Two hundred years later, we're still quoting the adages, proverbs, wit and wisdom of Poor Richard.

Published, sold, and written by Benjamin Franklin, under the pseudonym, Richard Saunders, for the years 1733 to 1758, *Poor Richard's Almanack* is one of the marvels of literature, has delighted people everywhere.

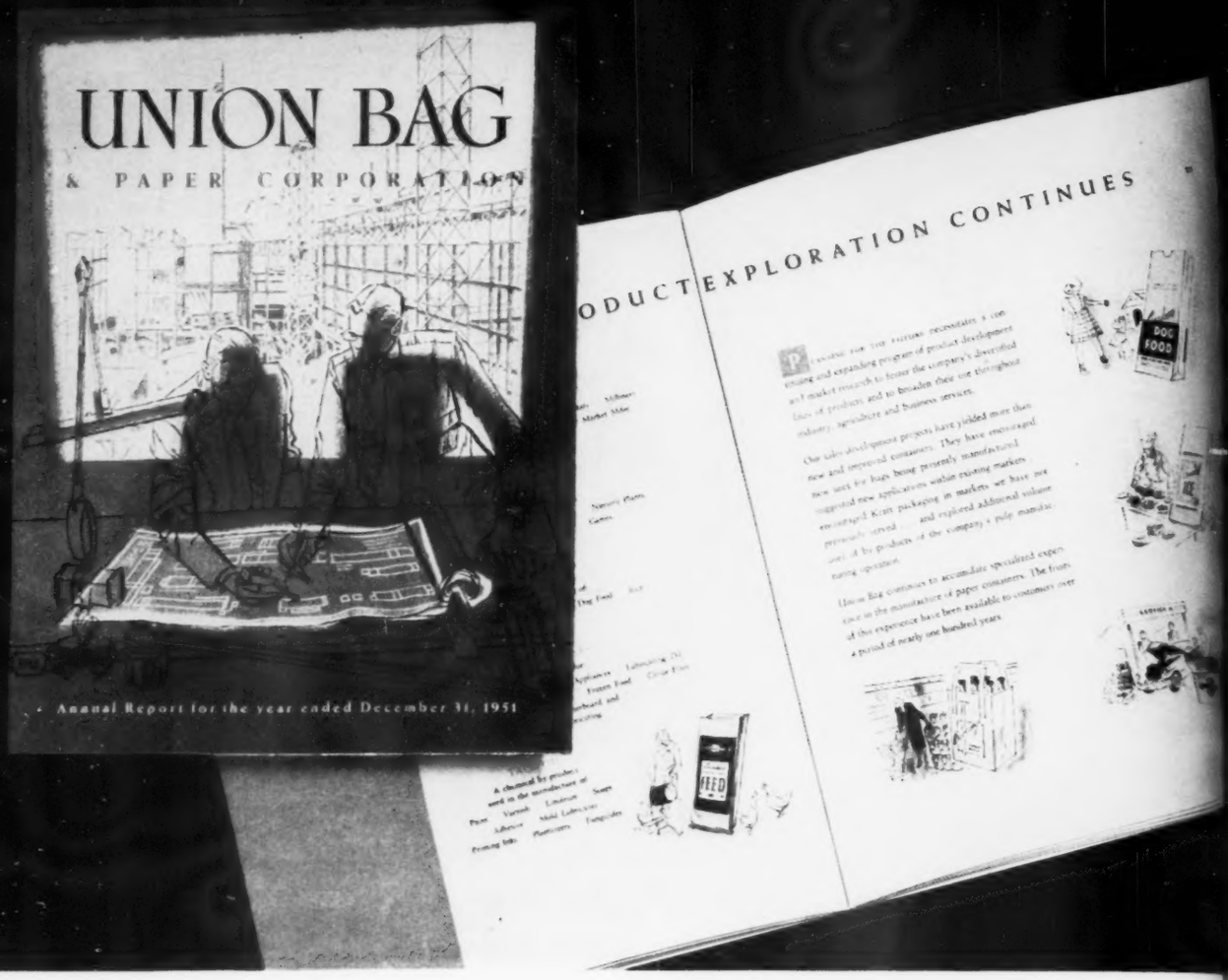
For over a quarter of a century it was the most widely read book in the Colonies, the first issue of an American press to be accepted in foreign lands. It has been translated into almost every known language, has probably had more readers than any other publication except the Bible.

It made both Franklin's fame and fortune. As he said, "My writings produce me some solid pudding."

Today, word in its printed form is even more profitable. For the vast printing industry, ATF provides the widest line of processes for better, more profitable printing . . . gravure . . . letterpress . . . offset.

Type faces shown are: Caslon 540, Caslon Antique and Lightline Title Gothic.

ATF AMERICAN TYPE FOUNDERS



A profitable pair the year 'round . . . offset plus letterpress

This outstanding printed piece, Union Bag & Paper Corporation 1951 Annual Report, was printed combination offset and letterpress to the advantage of both printer and customer. It was also done in record time.

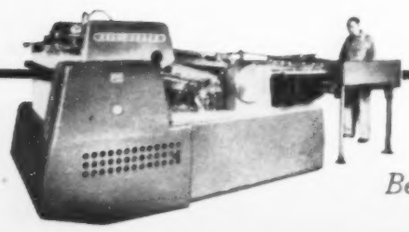
Actually it was run on seven ATF presses—three offset, two ATF Chief 29s and a Mann L135—and four letterpresses, three Kelly Cs and a Kelly 2. The job was done by Albert H. Vela Company, New York.

Both processes were used for the cover for two reasons. Front cover was printed in four colors offset to produce the halftone softness and smooth lay of ink in solid areas required by the illustration technique.

The inside cover was printed letterpress in two colors on a Kelly C to facilitate type changes and to reduce printing load from offset presses.

Inside of the book was printed combination. The basic reason was to distribute printing over as many presses as possible, both offset and letterpress, to permit maximum concentration of presses on this important job. The five-color illustrations on the pages shown here were printed in register by both processes.

Here's a perfect example of how offset and letterpress can be combined profitably. Ask your ATF representative why you, too, should be using both processes. AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.



Type faces shown are Stymie Medium with Italic, and Garamond

ATF

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET

RADIO CITY MUSIC HALL ROCKETTES,
WORLD-FAMED PRECISION DANCERS

Oh the wonder of a Webendorfer

for precision and versatility

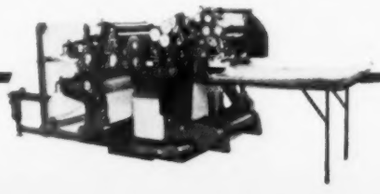
in business form production

To satisfy your most exacting customers, a Webendorfer web-fed business form offset press performs all sorts of finishing operations without ever missing a step. All this, at profitable high speed.

At the same time, the web is printed in one or two colors on the face and one color on back. The press will imprint, number, punch, perforate, slit, sheet, zig-zag fold, rewind. Auxiliary collating machines or carbon processors complete assembly and finishing.

Webendorfer presses are built in standardized units to handle every type of business form production—continuous, registered, inter-leaf, carbons, zig-zag packs, snap-out, fan-folds, or any other. There are two standard widths, 17 in. and 26 in. with cylinder circumferences of 17 in. or 22 in. When equipped with sheet delivery, Webendorfers can do double duty for regular form printing such as bills of lading, sales books, order blanks, or checkbooks. Deliveries can be supplied to suit every business form requirement.

Ask your ATF representative about a Webendorfer web-fed business form offset press for increasing your profitable production. AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, Webendorfer Division, 2 South Street, Mount Vernon, New York.



Type faces shown are Spartan, Bodoni and Copperplate Gothic

ATF

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE...LETTERPRESS...OFFSET

Why let "Smudgy" cut your salable copy count?

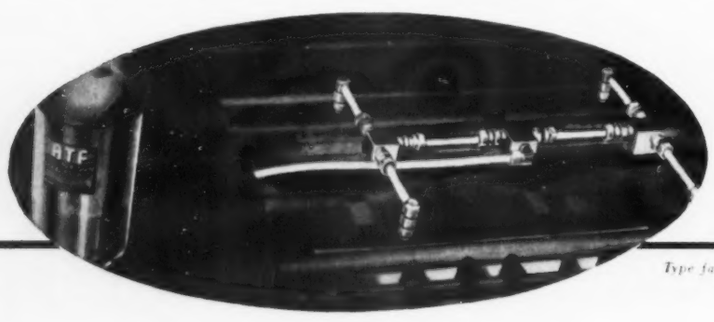
"Smudgy"—offset waste—cuts your number of salable impressions, slows production, reduces press output.

Why put up with him when you can delete him so easily by installing an ATF Flo-Mix Non-Offset Unit? With *positive* offset prevention you can operate at peak production, add to your profits per press per year.

Every ATF Flo-Mix Non-Offset Unit is engineered to synchronize completely with *your* press, regardless of size or speed. It is actually *part* of your press. Powder volume and distribution are carefully controlled for full sheet coverage. Three types of ATF Flo-Mix Units meet all requirements. One for carriage delivery presses, another for small chain delivery presses, still another for large chain delivery presses.

Ask your ATF representative which type of unit you need for *your* press. Write for descriptive folder.

AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, N. J.



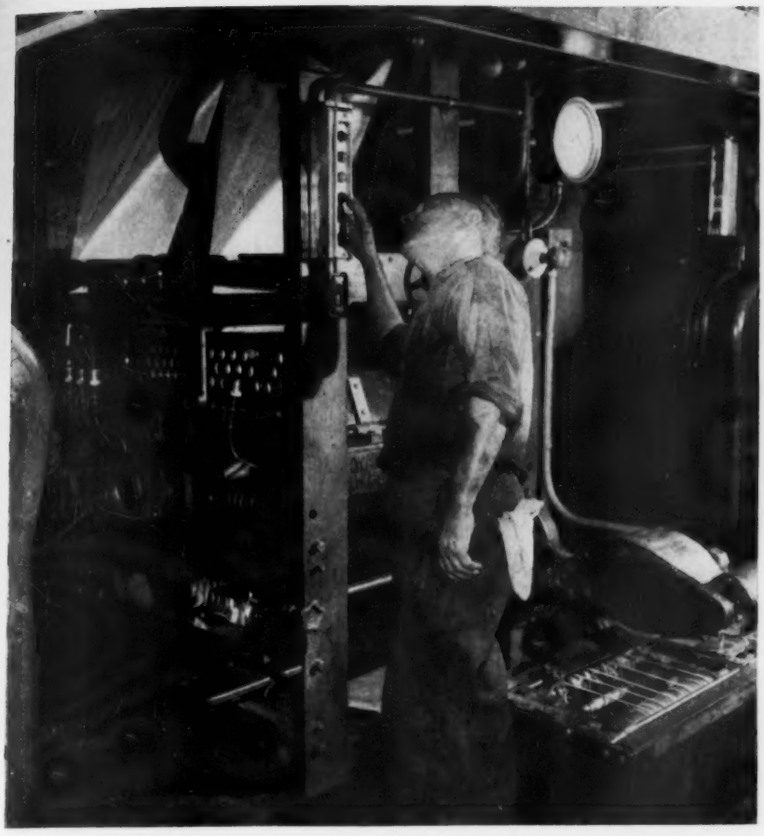
Type faces shown are: Lydian Bold Condensed, Bodoni Book and Bodoni Bold.

ATF

BETTER, MORE PROFITABLE PRINTING FROM THE WIDEST LINE OF PROCESSES

GRAVURE . . . LETTERPRESS . . . OFFSET

Here's why LINK-BELT SILENT CHAIN drives the majority of the country's high-speed, high-hp presses



A touch of the control button brings exact press speeds on this Walter-Scott five-unit press at the *New York Herald Tribune*. Two 100 hp. Link-Belt Silverstreak Silent Chain Drives have been in constant use since 1940.

New York Herald Tribune gets accurate printing at chain speeds up to 3664 fpm

This experience of the *New York Herald Tribune* is typical. In the 12 years they've used L-B Silverstreak Silent Chain Drives, they've had only efficient, trouble-free performance. It's little wonder that so many of the country's high-speed, high-production presses are driven through Link-Belt Silverstreak Silent Chain.

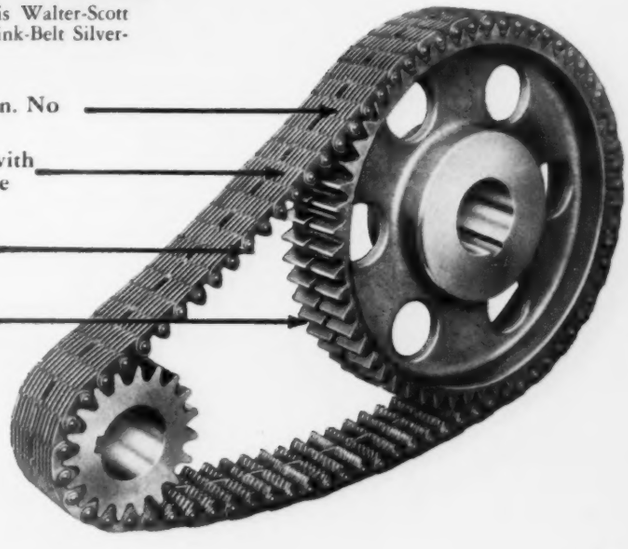
Regardless of your printing requirements—newspaper, magazine or rotogravure—check these time-proved drives. You'll find Silverstreak Silent Chain Drives unbeatable for dependable, high-speed press performance.

"Pull" is distributed equally across Silverstreak Chain. No possibility of uneven running—no slapping.

Narrow-width Silverstreak Silent Chain does the job with a *single strand*—eliminating dangers that come with use of multiple belts.

Husky Silverstreak *metal link* construction combines the ability to carry heavy overloads with the resilience that really absorbs shock.

Silverstreak Silent Chain doesn't rely on tension to get pulling power. Chain meshes with teeth—gives POSITIVE drive—no chance for slip.

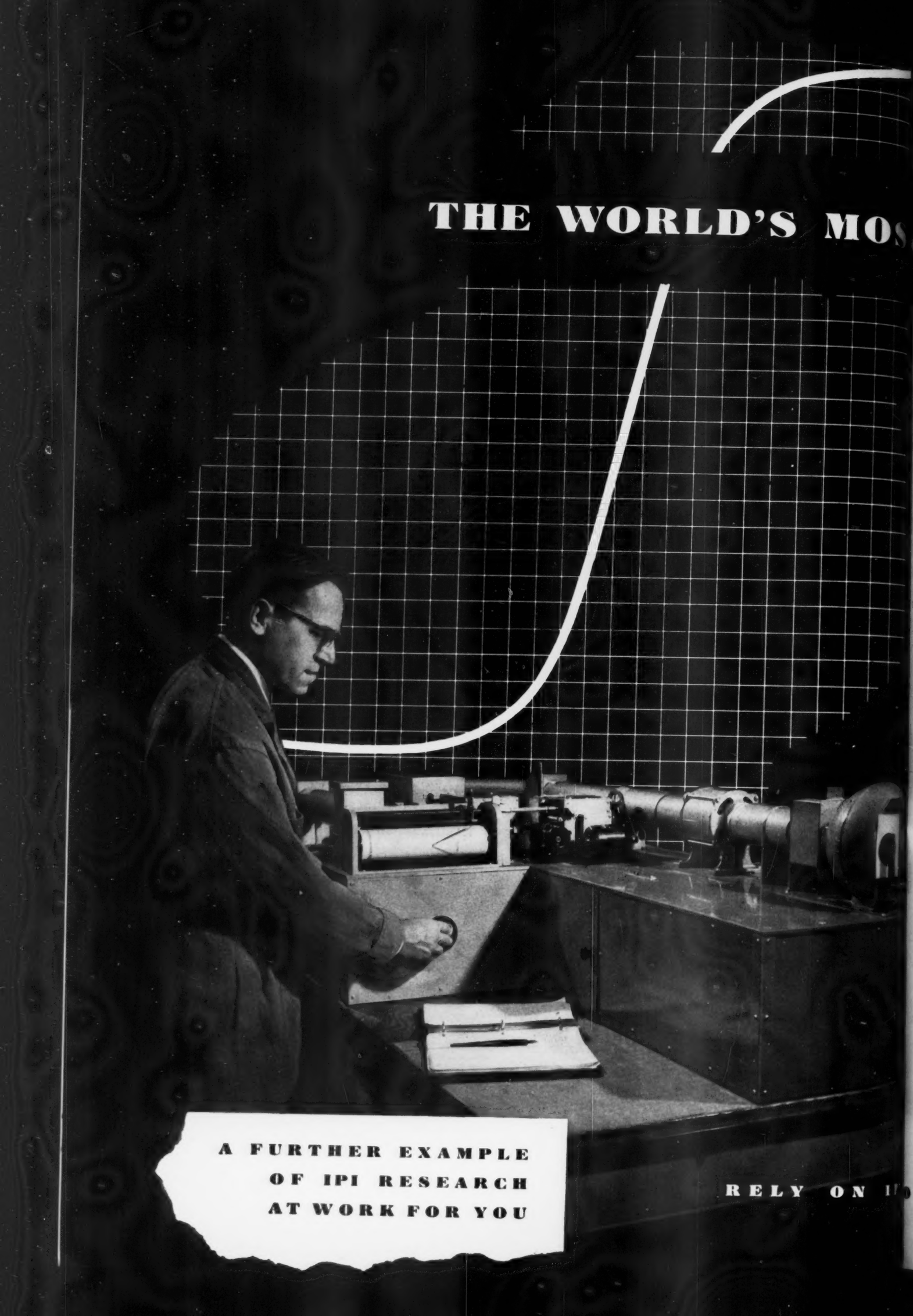


LINK-BELT

SILVERSTREAK SILENT CHAIN DRIVES

12,825

LINK-BELT COMPANY: Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.


THE WORLD'S MOS
A FURTHER EXAMPLE
OF IPI RESEARCH
AT WORK FOR YOU
RELY ON

OSENSITIVE EYE FOR COLOR

. Gives You Precise, Permanent Standards for Color Control

Here is a precision laboratory instrument to measure and record color automatically and accurately. It is the General Electric Recording Spectrophotometer—the first one of which was built specially for the IPI Research Laboratories by G-E engineers.

A trained human eye can distinguish among one hundred thousand colors. The Spectrophotometer identifies millions . . . measures and analyzes them . . . writes its own exact and permanent record of any color sample.

While all pigments change with time, the curve plotted by the Spectrophotometer remains unchanged over the years. The original color could be accurately reproduced tomorrow or one hundred years hence for checking against your visual color standards.

But the precise measurement of color is only one of the many important contributions to printing ink progress that have come from IPI's broad program of fundamental research. Another is the development of new inks that have revolutionized letterpress printing and offset lithography. One example is IPI Vaporin Inks that heat-set in a split second and are largely responsible for today's high speed magazine printing. And there is the IPI Tri-Metal Plate—the first successful, long life offset plate capable of highest quality reproduction.

This "passion for improvement" is the working philosophy behind all IPI research. Scores of project groups are constantly at work in the IPI laboratories . . . concentrating all of their efforts on the development and improvement of printing inks that will best serve the changing needs of printers everywhere.

It is this IPI leadership in ink research that gives you the greatest assurance of continued high quality in printing inks. You can always rely on IPI—for better inks, better printing.

INTERCHEMICAL CORPORATION

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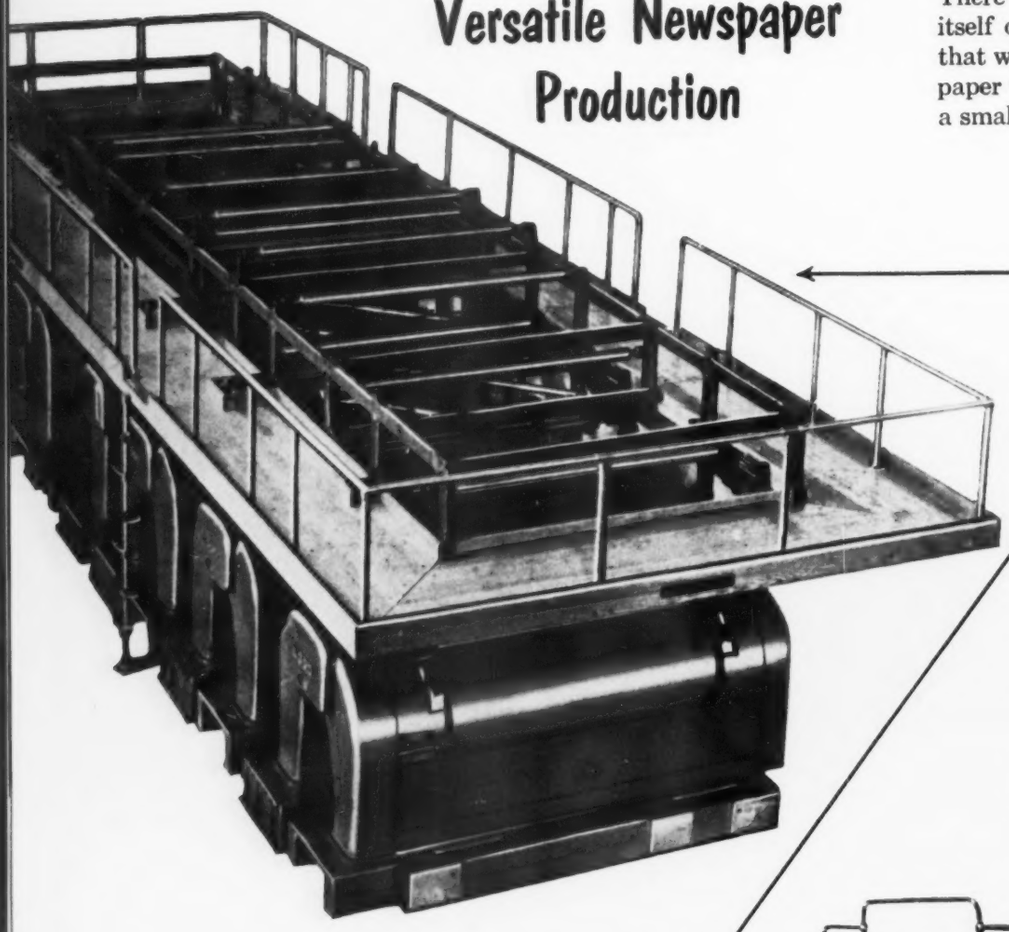

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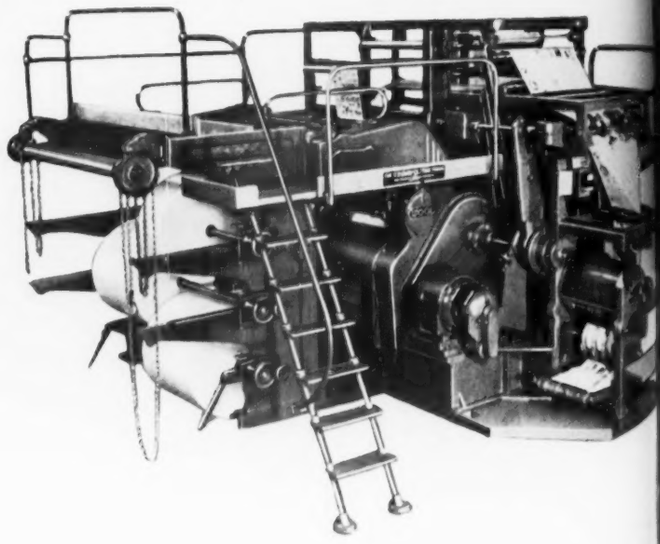

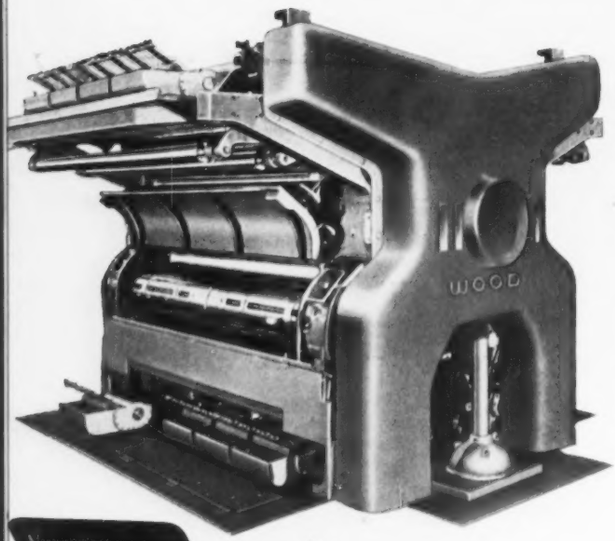

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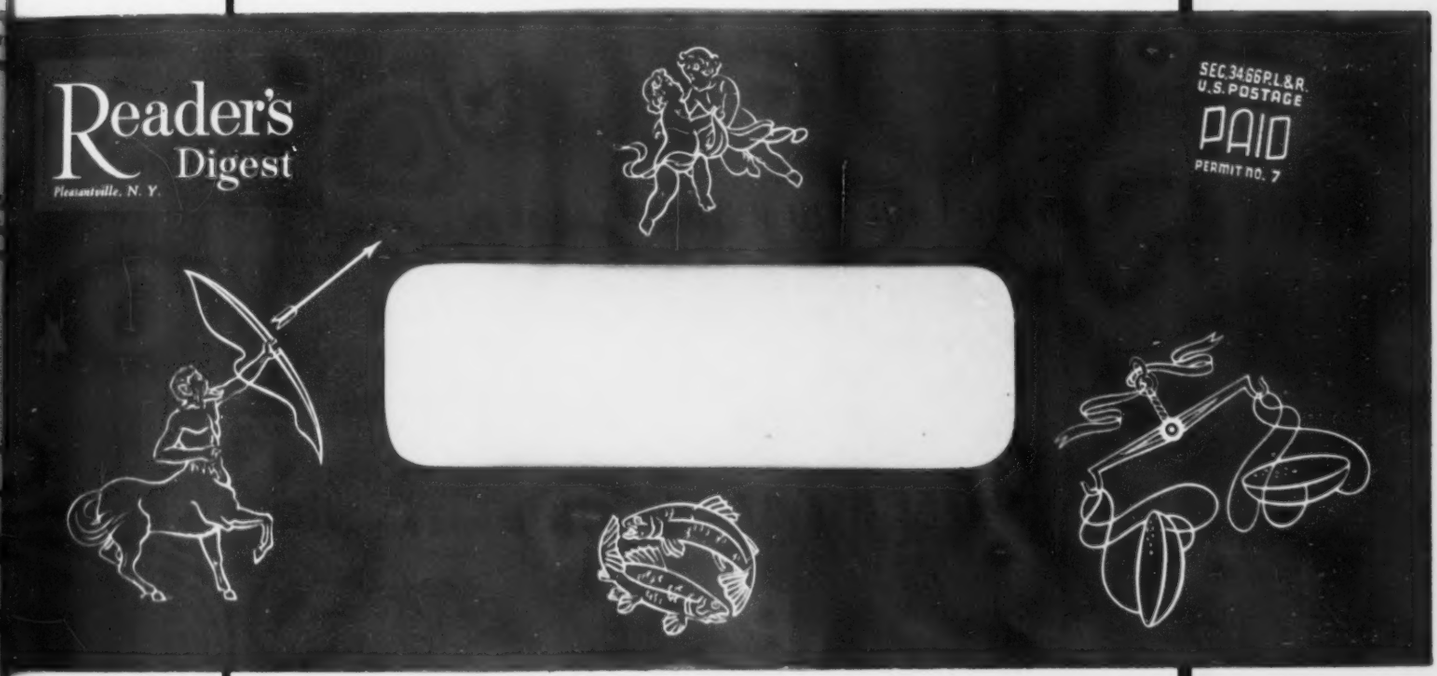

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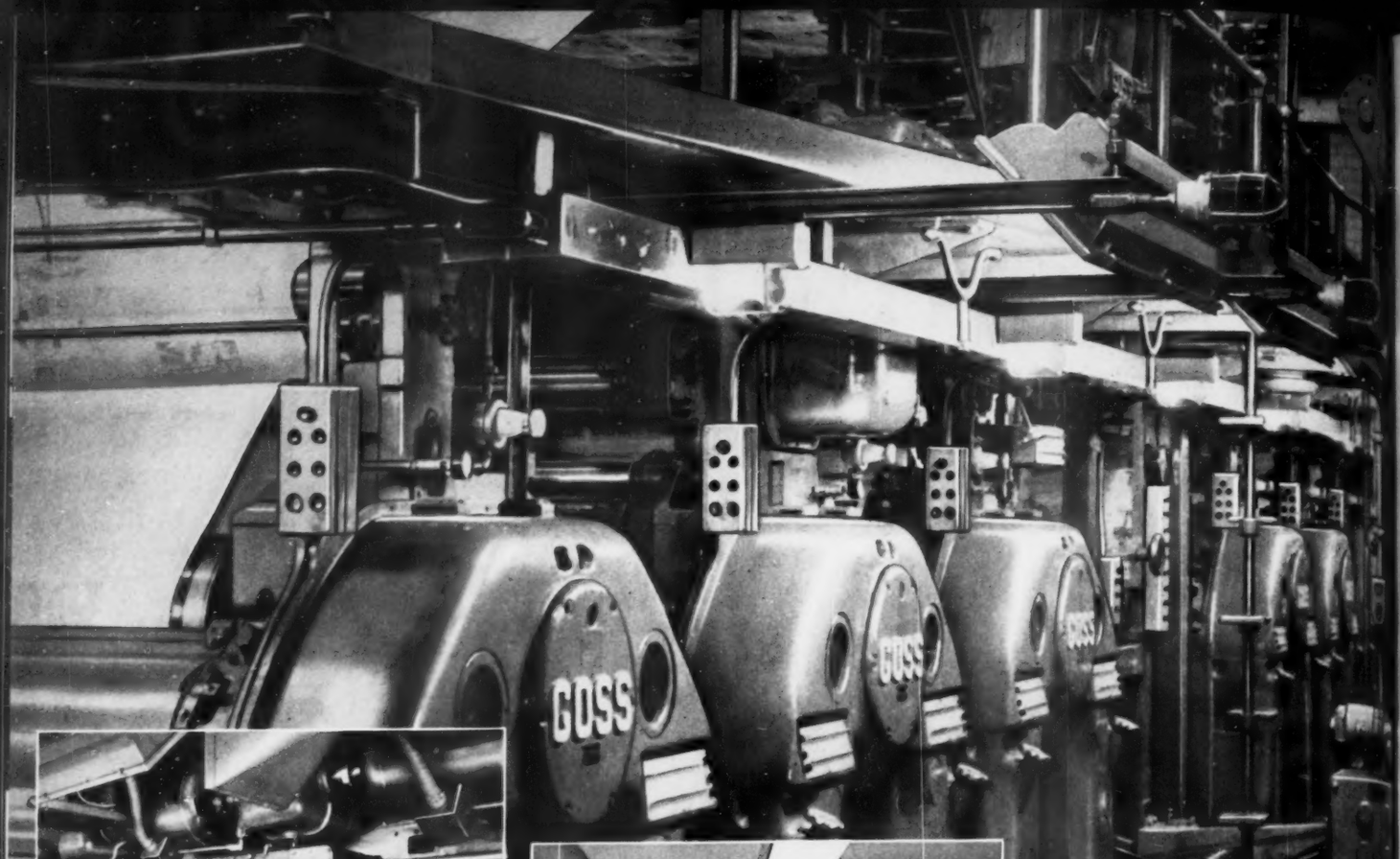

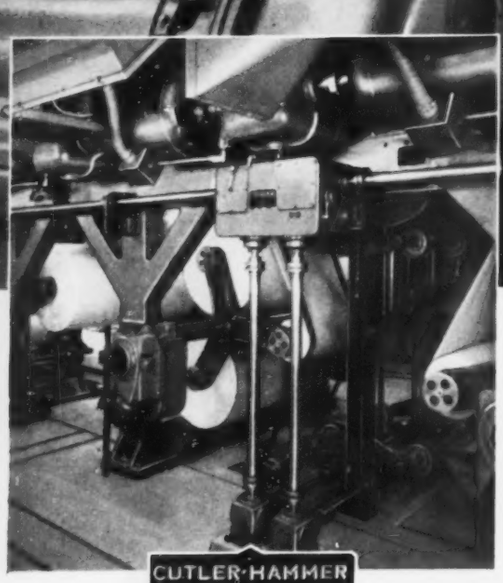

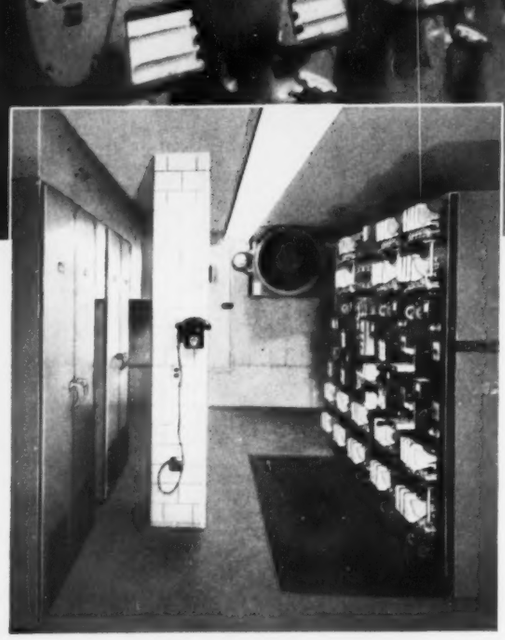

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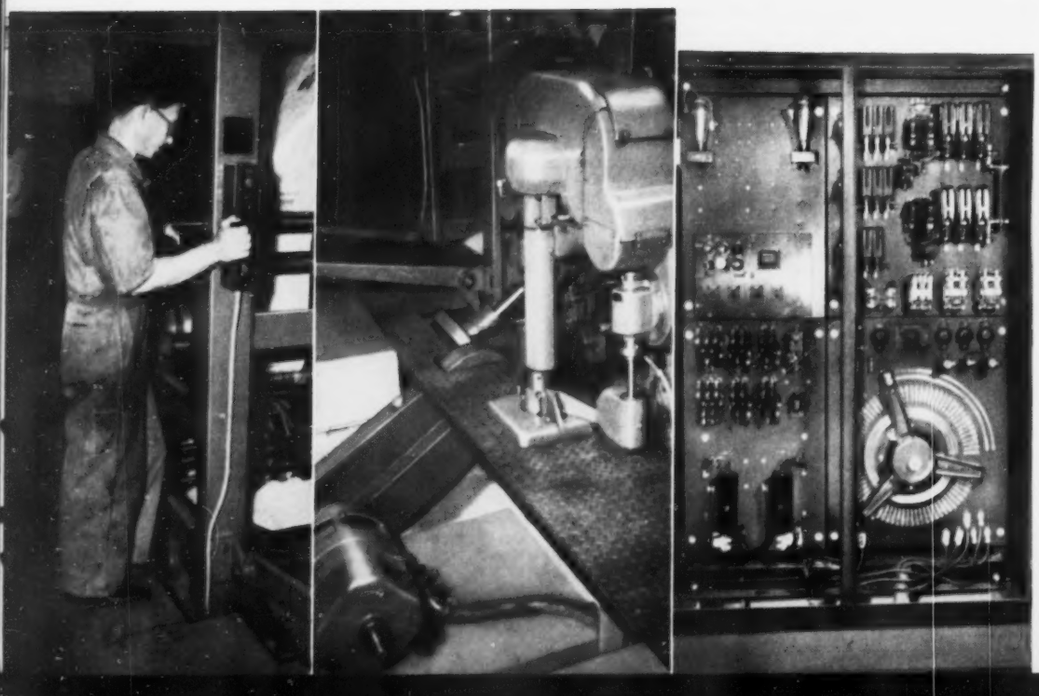

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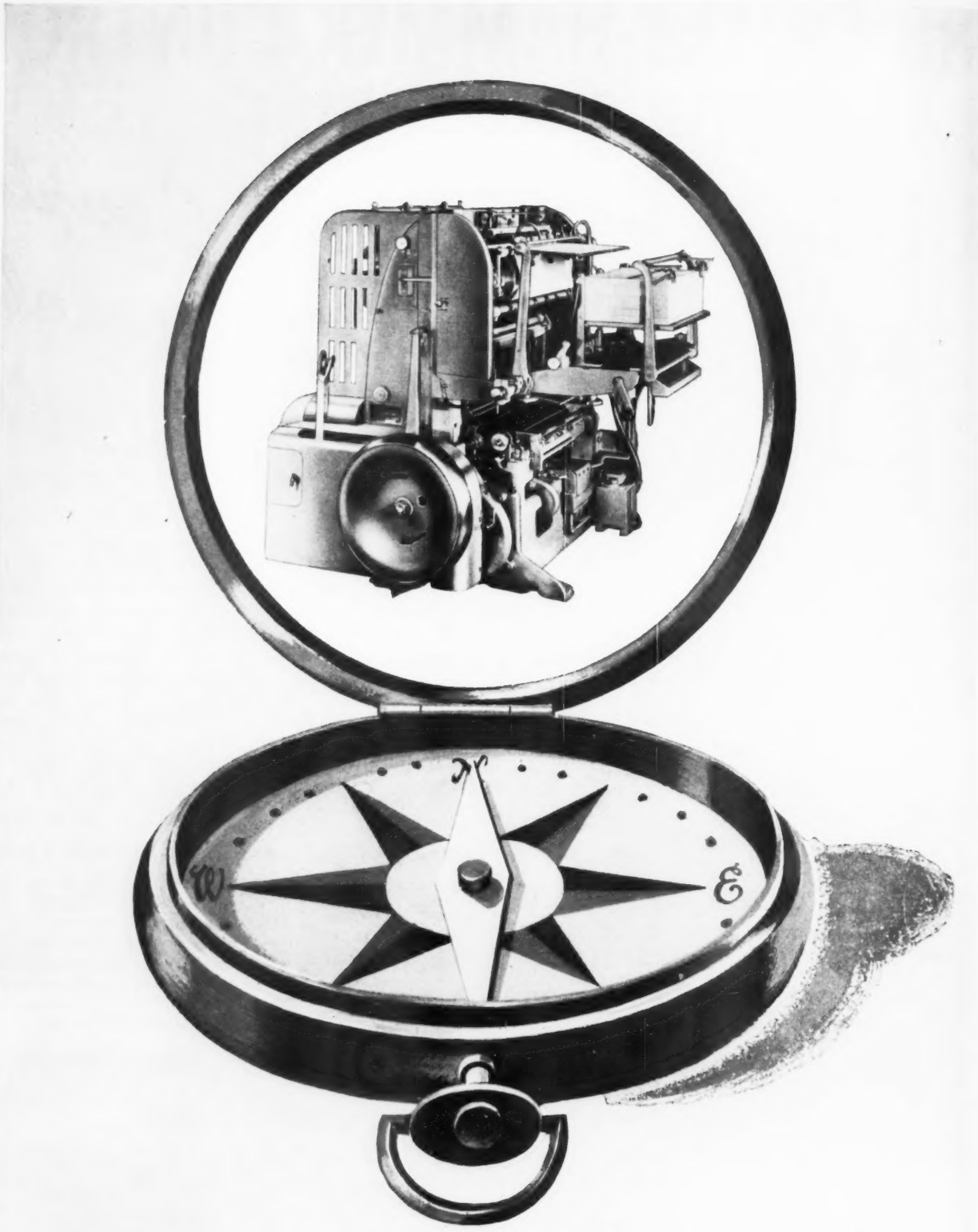

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ROP Color Survey

IN A 20 page and cover report, Lake Shore Electrotype Div. of Electrographic Corporation (and in cooperation with American Electrotype Co. of San Francisco) has issued a revised Report on Newspaper ROP Color Requirements. In the report newspapers are listed alphabetically by states. Information is given with respect to the following: Three colors and black full page or less; Two colors and black full page or less, Black and one color; Closing days in advance of publication; Minimum size unit acceptable; Actual printing plate size; Color used in editorial printing; Days of week national ads available; No. progs and color proofs required; Method of molding (hot-cold); Mandatory masthead, and Type of press packing used.

The first report was published on October 15, 1951 and represented six months of work and an initial investment of over $10 thousand.

It is explained in this latest revision that the findings are the result of a continuous mail survey questionnaire follow-up of every newspaper in the U.S. that prints r.o.p. color. It is reported that 553 daily newspapers print two colors, 255 daily newspapers print three colors, and 179 daily papers print four colors.

One of the interesting phases of this report is that an indication of the willingness of daily newspapers to spend some of their own time and money on color printing advancement is given by the fact that 249 daily newspapers print editorial color, while 313 do not print editorial color.

Hot or cold methods of mat molding are indicated as follows: 107 daily newspapers mold by the hot method, and 442 mold by the cold method.

Another interesting item with respect to the relationship of stereotype plates and press impression cylinder packing is noted as follows: 78 daily newspapers use hard packing, 357 use semi-hard packing, and 110 use soft packing.

Since this report is concerned with national advertising plates, it is noted that page sizes vary from paper to paper, thus requiring making originals (by the platemaker) to fit minimum size papers on actual and proposed r.o.p. schedules.

The types of press packing used by the various newspapers make possible the evaluation of makeready conditions for individual requirements of every newspaper for the Lake Shore Super Bista Pre-madeready Stereotype mats sent to newspapers in a given campaign. The makeready is incorporated in the mat sent to the newspapers who will reproduce the advertisements in their papers. Thus the plate makeready is automatically transferred from the Bista mat to the curved stereotype plate during the casting operation with precision and accuracy which, it is said, has not been obtainable in the past.

Copies of the revised *Lake Shore on Newspaper Color Requirements* are obtainable from Lake Shore Electrotype Div., Electrographic Corporation, 1224 Van Buren St., Chicago 7.

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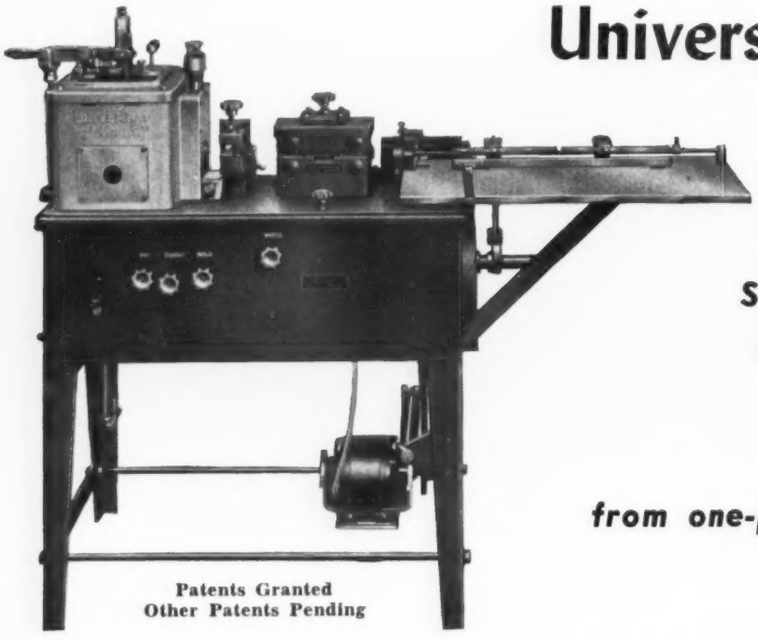

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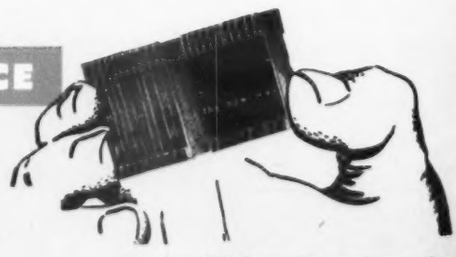

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PRINTING
EQUIPMENT
Engineer
September 1952

High Shrink Stereo Mats

Bring with them an entirely new concept of manipulation—Equipment maintenance techniques vital—Press care and adjustment

By GEORGE H. FULLER*
**Stereotype Supt., *The Cleveland* Press.*

I.

THE controversy at the June ANPA Mechanical Conference in San Francisco with respect to whether or not as good newspaper printing can be done with high shrinkage stereotype mats as with the former low shrinkage mats seems to indicate that newspaper executives are not in agreement.

Some executives, including Henry Messina, Production Manager of the Los Angeles *Herald* and *Express*, Leslie J. Griner, now Production Manager of the Detroit *Free Press*, and others, feel that excellent results are being obtained in plants where conditions are suitable to the use of high shrinkage mats.

A number of other newspaper production and mechanical executives do not agree. They are sincere in their belief. They feel the normal procedure would be to reduce column widths while retaining low shrinkage stereotype mat technique. Perhaps these sharp differences of opinion among competent executives will exert a leavening effect and help result in a better printed paper.

Mat Speculation

There has been speculation among a number of newspaper business executives as to whether or not it is possible to increase the shrinkage properties of mats another 1/8 in. to 1/4 in. At the moment, so we have been informed, the mat manufacturers apparently have gone the limit with respect to mat shrinkage. Somebody suggested to the writer that maybe it would be feasible for the mat makers to increase the shrinkage properties of mats. If it is possible to accomplish this objective, it appears that the mat would cost more to the consumer. In any event, it is easily understood that with the present mat some of the shrinkage property of the 15 in. mat when compared to the 16 in. mat, is lost across the page. Hence, in the case of better than 1 in. shrinkage, the eyeing of a narrower mat with increased shrinkage properties by some newspaper executives.

High Shrink Mat Here to Stay
Let's Do Best Possible Job

In justification for presenting this article regarding high shrinkage mat manipulation, and printing press adjustment, the writer feels (as do most newspaper mechanical executives) that high shrinkage is with us permanently. Pressure from the publisher, of course, because of economic conditions precipitated

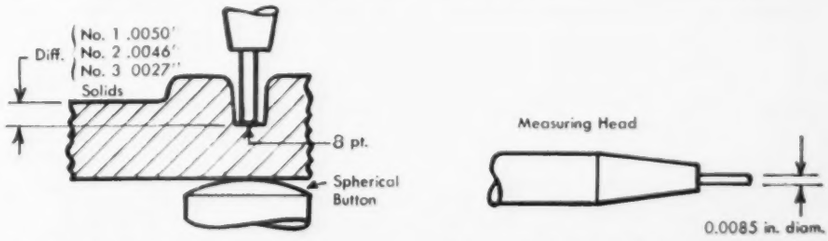


Fig. 1.—In these diagrams are shown method of measuring high shrink stereotype mats after molding as indicated in Table I. A Starrett Dial Indicator with 0.0001 in. graduation was mounted in a fixed frame. W. A. Lynam, Mechanical Engineering Dept., Case Institute of Technology, Cleveland, who conducted the tests, feels that perhaps it might be necessary to eliminate the slightly spherical points of both the anvil and the contact needle or pin in favor of flat contact surfaces to secure more nearly accurate measurements. However, the results of these tests are indicative of a number of things, the further study of which should be profitable in high shrink mat molding operations.

by the recent price rises in newsprint in reality is the governing factor. More than likely the report of the committee appointed recently by ANPA's President McCahill will not only recommend standardization of column widths but will make recommendations respecting mat shrinkage. The report is being looked forward to with anticipation. Therefore, our attitude should be to make the best of a situation even if it isn't altogether pleasing and attempt to adopt molding and forming techniques which will produce the best results.

Molding Concept Radically Changed

In this discussion, we will use the term "1 in. mat shrinkage" as a general term, knowing full well that some newspapers may have adopted ⅝ in. shrinkage while others go up to 1⅛ in. shrinkage.

It should be stressed right here that when high shrinkage mats are adopted, the stereotype executive must realize that his entire former concept of molding under low shrinkage conditions is changed radically. High shrinkage brings with it the necessity for paying meticulous attention to a lot of idiosyncracies that don't affect mat molding techniques under low shrinkage mat molding. For normal shrinkage mats, the stereotype executive uses established techniques successfully. But the instant high shrinkage is introduced into a plant, the entire concept of mat molding procedure is altered.

Form Element Height

To mention some of the things to which strict attention must be given, we'll start with column rules. Under high shrinkage conditions it isn't sufficient to say that all form elements are within reasonable height tolerances. With the cooperation of the Composing Room Superintendent, *make sure* that type matter is 0.918 in. high within reasonable tolerances. Whatever these tolerances (which may vary slightly from plant to plant) the column rule preferably should be 0.915 in. or 0.916 in. high; halftones and solids should be run 0.002 in. to 0.003 in. high; 30 and 36 pt. line-casting machine head slugs should be at least 0.920 in. high. (All stereotypers know that certain types of form materials are lowered with respect to height under repeated moldings.) "Battle-axe" chases—that is, low chases, warped or sprung chases, out-of-square chases, and the like, should be replaced.

Checks and Balances

In the newspaper or any other printing plant, the entire mechanical operation is subject to a continuous series of checks and balances. For instance, the photoengraver pays attention to the density of his etching fluid—not only at the commencement of its use but also during its use. In the composing room, among other checks, the machinist checks slug measurements and metal pot temperatures regularly. In the pressroom, there must be periodical checks regarding accuracy of impression, inking roller and other important adjustments.

Don't Depend Upon Permanency of Adjustments

Now, in the stereotype department, there are a number of adjustments which must be held rigidly when high shrinkage mats are used. Just because the preshrinker, Sta-Hi Former and metal pot temperatures *were* adjusted correctly at one time, doesn't mean that the temperature adjustments are correct now.

In the case of the infrared pre-shrinker, dry clean all reflecting surfaces and lamp bulb and inspect all lamps to see that they are lit. Do these inspections and cleanings once a week. In this way you won't be bothered with sudden unaccountable behavior of a temperamental high shrink mat.

In the Sta-Hi Former where electric elements are used both in the base and chamber heaters, one might feel that since the thermostats *were* properly adjusted some time ago that they are now set to deliver the proper degree of heat. Check both base and top heating surfaces with a surface pyrometer. The base temperature should be at least 50 deg. to 75 deg. hotter.

Perhaps one of the most common sources of trouble is right in the metal pot. Usually, these pots are equipped with temperature indicating pyrometers. The writer went into one daily newspaper plant recently to check up on troubles which were attributed to high shrink mats. In this plant, the indications were that plate trouble was being caused by too high a temperature of the metal in the pot. Inspection showed that the pyrometer indicated 600 deg. F. Upon testing with a glass tube thermometer, however, the temperature was found to be 690 deg. F. The pyrometer was immediately sent in for overhauling and repair. Through use, heat control instruments do lose their accuracy in time and should be checked for accuracy once a month.

Theory of High Shrink Mat Molding Technique

The most important operation in high shrink mat molding when compared to low shrink mat molding is the method of molding and the molding combination itself. If the stereotype executive will keep in mind that in the case of the high shrink mat it is necessary to employ sufficient pressure with the proper molding combination to iron out moisture from the mat in the solids and halftones and to protect the molding blanket from the moisture escaping from the mat, then he will be in a position to more successfully manipulate the mat itself. One cannot mold moisture but he can make it possible for the moisture to escape from the mat.

Mat Molding Technique

The writer can't help but refer to the address made at the January 1952 meeting of the Great Lakes Conference, Detroit, by Ferd Mier, Stereotype Supt. of the Detroit *Free-Press*. (See report of Mier's address in March issue of *Printing Equipment Engineer*). The writer has the greatest respect for Mier's skill and studious investigation of stereotyping techniques. What is more to be admired he has been generous enough to pass along the results of his investigational work so that others may be helped in a troublesome problem.

With respect to high shrink mat molding, Mier stated:

"Materials that have high compressibility at low molding pressures and low compressibility at high pressure are best suited for molding of high moisture mats. They have sufficient resistance to insure compression of the mat at the printing surface and still allow necessary space depths.

Five Fundamental Principles

"With high moisture mats the combination must be relied upon to perform the following functions:

"(1) To deliver only the space depth required to print cleanly, as determined by the requirements of the pressroom.

"(2) To obtain maximum bowl depth without damage to type serifs, italics, or the finer faces.

"(3) To obtain maximum compression of the mat at the printing surface in order that the plate surface may be as free from imperfections as possible.

"(4) To give even compression on both halftone and type surfaces and nullify drop-out on the plate of halftones and solids.

"(5) To allow maximum flexibility of the combination in order that changes may be made to compensate for factors the stereotype department cannot control.

"With the wider use of the high moisture mat a reconsideration of the molding operation should be made. Mats contain from 10% to 15% more moisture than in previous operations. They, therefore, require less molding pressure to obtain the necessary compression at the printing surface and less bulk in the combination to obtain the required space depth and bowl depth to satisfy pressroom requirements.

"Bearing in mind that cork compresses 47% to 55% of its thickness to deliver proper impression in a mat, a ¼ in. cork utilizes approx. 0.120 in. of its thickness to form space depth and compress the mat at the printing line. In the normal form the space depth is from 0.043 in. to 0.065 in. where high slugs and materials are in use. With low material the depth will be nearly 0.153 in. with the added operation of slugging or filling in these deep spaces to preserve a proper space depth or bridge in the mold. *With the thicker corks an over-abundance of free pressure is exerted below the printing surface of the form and a subsequent distortion is set up in the mold as well as the damage done to the type serifs and italics and finer type faces.*

"For the past two years there have been available cork molding blankets ⅛ in. thick in varying degrees of hardness. This material, when used in conjunction with a steel board and Tingue, Brown foundation blankets fulfills the five fundamental principles just outlined.

TABLE I.—In this table are shown results of ***high shrink*** stereotype mat roller and direct pressure molding tests in plant of Cleveland *Press*. The tests show thickness of mats before molding, and the indented thickness of molded mats in the solid areas and the 8 pt. news matter areas. The tests were taken by W. A. Lynam, Mechanical Engineering Dept., Case Institute of Technology, Cleveland. Further study together with further tests are required before it can be determined definitely that the molding behavior of high shrink mats, as shown here, is positive.

MAT NO. 1[1]		MAT NO. 2[2]		MAT NO. 3[3]	
Blacks	8 Pt.	Blacks	8 Pt.	Blacks	8 Pt.
.0259"(l.)	.0205"	.0256"	.0207"	.0247"	.0226"(h.)
.0262	.0226	.0259 (h.)	.0206	.0245	.0215
.0263	.0219	.0254	.0214	.0246	.0211 (l.)
.0265	.0227 (h.)	.0253	.0212	.0242	.0213
.0263	.0216	.0257	.0208	.0248 (h.)	.0215
.0271 (h.)	.0203	.0255	.0203	.0246	.0224
.0266	.0224	.0257	.0219 (h.)	.0244	.0221
.0269	.0202 (l.)	.0253	.0202 (l.)	.0242 (l.)	.0214
.0263	.0212	.0255	.0216	.0246	.0223
.0268	.0216	.0251 (l.)	.0204	.0242	.0214
.02649"	.02150"	.02549"	.02091"	.02448"	.02176" Aver.
.02150		.02091		.02176	
.00499"		.00458"		.00272"	Diff.
.0050		.0046		.0027	
.0259-.0271	.0202-.0227	.0251-.0259	.0202-.0219	.0242-.0248	.0211-.0226 Range
.0012	.0025	.0008	.0017	.0006	.0015

[1]MAT No. 1:
Roller ¼ in. Cork, plus 1/16 in. Fibreboard:
Original thickness of Mat.....0.0345 in.
Thickness through solids (Press).....0.028 in.
Difference.....0.0065 in.

[2]MAT No. 2:
Roller ⅛ in. Cork, 2 Foundations, plus 1/16 in. Fibreboard:
Original thickness of Mat.....0.034 in.
Thickness through solids (Press).....0.0255 in.
Difference.....0.0085 in.

[3]MAT No. 3:
Direct Pressure (500 T.):
Original thickness of Mat.....0.035 in.
Thickness through solids (Press).....0.025 in.
Difference.....0.010 in.

"Maximum usable compression is 0.062 in. Deep spaces in the form—over 0.065 in.—do not need to be slugged as is the case when thicker corks are in use. Space depth is even and the so-called bridges are square and require a minimum of re-enforcement."

Combination for Mat Roller

On the average roller mat molding machine, it is suggested that the following combination be used for high shrink mats. It is understood that any one combination cannot be made to function properly in different plants on all types of molding equipment. The combination is as follows:

Sheet of Kraft paper (approx. 0.006 in. thick next to the mat smooth side down)
⅛ in. hard cork blanket
2 Tingue, Brown & Co. Foundation blankets (0.053 in. or 0.060 in. thick)
1/16 in. fibre board

Combination for Direct Pressure

After considerable experimentation with different molding combinations, the writer has determined upon one which seems to give best results. He expects to continue this combination for molding by direct pressure at the Cleveland *Press* until a better combination can be found. It is as follows:

Sheet of Kraft paper (approx. 0.006 in. thick next to the mat smooth side down)
⅛ in. hard cork blanket
4 new (or 6 old) Tingue, Brown Foundation blankets (either 0.053 in. or 0.060 in.)
1/16 in. fibre board
Direct pressure should be used with heat 200 deg. F. to 230 deg. F. and held from 30 sec. to 40 sec. under pressure.

Since it is necessary to iron out moisture from solids and halftones during molding, considerable water is expelled. The Kraft paper is intended to absorb the moisture and can be discarded after having been used once for molding purposes. By using a fresh sheet of Kraft paper next to the mat, the ⅛ in. cork blanket does not become soaked with the moisture from the mat even after repeated moldings. Moisture in a cork blanket retards effectiveness.

Not Too Rapid Molding Stroke

Another important matter in high shrink mat roller molding is that since it is necessary to iron out water from the mat, the motion of the molding machine must not be too rapid. The writer visited a daily newspaper plant not so long ago in which the molding machine stroke was 5 sec. flat. Approx. half the molding depth in the high shrink mat was lost because of spring-back of the mat after the mat was removed from the form. Slowing down the molding stroke to 15 sec. to 20 sec. resulted in a mat which held depth much better.

In another instance, the curved stereotype plates were being shaved to 0.431 in. instead of the full 0.4375 in., or 7/16 in. thickness. Upon inspection, it was found that the halftones were between 0.004 in. and 0.005 in. low in the curved plate. Investigation showed that a ¼ in. cork was being used in molding the high shrink mats. The stereotype superintendent got together with the pressroom superintendent about the plate thickness, both men working jointly on the problem. Meanwhile, the ⅛ in. cork combination was used as outlined above. Immediately, there was a startling change for better printing.

Collective Effort

At this point it must be evident that if one or more of the mechanical departments should neglect one or more details, then collectively, the pressman will have a major problem upon his hands. The cause of the trouble may be traceable to the engraver, the composing room or to the stereotype department or in any combination.

Experimental Molding Tests

High shrink stereotype mats have brought with them a number of manipulating problems. These are new and are peculiar to this type of mat inasmuch as they have never occurred in low shrink mats. In an attempt to "stabilize" the many ideas which occur to one when tackling a new problem, the writer was granted the services of W. A. Lynam, Mechanical Engineering Dept., Case Institute of Technology, Cleveland. Specifically, we wanted to know about the ratio of indentation in the mat between solids and straight matter type areas. Some years ago, Ted Shea, who then was Production Mgr. of the Worcester (Mass.) *Telegram-Gazette*, made an exhaustive series of tests for Walter E. Wines, then Manager of the ANPA Mechanical Dept. These were with respect to depth indentation of the various form elements in low shrink mats by roller molding. This data, however, is useless in the case of high shrink mats.

In Table I some interesting figures are revealed. Some of the things we feared would happen just didn't happen. While we knew that solids and halftones and straight matter type are reproduced at different levels, yet we were happy in the thought that we could come nearer to giving the pressman the kind of plate he wants. The pressman likes to have solids in the plate elevated above lighter printing images. In our case, halftones in the plate are approx. 0.001 in. low. The differences in average indentation when checking an individual mat from an overall standpoint seem to indicate that perhaps there is room for improvement in height-to-paper of the form elements. It is possible, also, since no given area in any form is identical with respect to printing image to any other area of like dimension, that nothing can be done to reduce these variations. Yet, at the same time, the writer would like to see further tests made by an established institution. In this respect, and without going into the subject at all, we know that straight matter type penetrates easily into the mat while large halftone and solid areas do not. If the moisture is not ironed out of the halftone and solid areas the mat will be thicker in these areas. Consequently, these areas will cast low in the plate.

In any event, the overall range of indention as shown at the lower end of each column in Table I is an interesting subject for further investigation. Mr. Lynam, who conducted the tests, is somewhat in doubt as to whether or not flatted-off contact point and anvil should be used in the gauge to insure greater accuracy or if some compensating factor could be introduced when measuring indentation thickness with spherical points.

(*Concluded Next Month*)

Plane Crash Kills Granum and Thrashers

OLIVER B. GRANUM, Owner of Granum & Company; W. J. Thrasher, Superintendent of the Maverick-Clarke Printing Co., and Mrs. Thrasher, all of Houston, Tex., were killed in the crash of Granum's plane while returning to their homes following the recent Craftsmen's Convention in St. Louis. The wreckage of the plane was found near the Missouri-Arkansas line. It was reported the plane left St. Louis on August 13 from Lambert, the St. Louis field, without filing a flight plan, and is believed to have crashed during an electrical storm. Mr. Granum had portrayed Sam Houston during ceremonies at the Convention promoting Dallas as next year's convention city. He served two years ago as Intl. Representative of the Ninth District. A photo of Mr. Granum appears on Page 32.

PIA Convention

Advance registration for the 66th Annual Convention of Printing Industry of America, Inc., to be held October 13 to 16 in St. Louis, recently passed the 300 mark. This is approximately one-third of the total number of printers and lithographers expected to attend this year's meeting.

The convention program has been arranged to devote a large portion of the time at each session to audience participation. In this manner, it is thought that those in attendance will have an opportunity to benefit through cooperative study of their problems.

Addresses and discussions will be developed around the central convention theme of *More Profits Through Better Management*. An entire convention session will be devoted to each of three principal ways of earning more profits through better management.

The problems of selling and sales management will be considered Monday afternoon; techniques for increasing productivity will be discussed Wednesday morning; and ways of reducing costs will be covered at the Wednesday afternoon session. As is customary at PIA conventions, all day Tuesday will be given over to business and discussion meetings of the Master Printers and Union Employers Sections.

A speaker will precede the discussion portion of each session who will cover the topic in outline form. The chairman of the meeting and the speaker will be assisted by a panel of several men, each chosen because he is an expert in some particular phase of the general subject being covered at the session.

PIA members with a common interest in some subject, or a particular phase of the subject, will be afforded the opportunity to meet in smaller groups on Thursday for more exhaustive study of their individual problems. The topics to be covered at these meetings will be posted in the convention program.

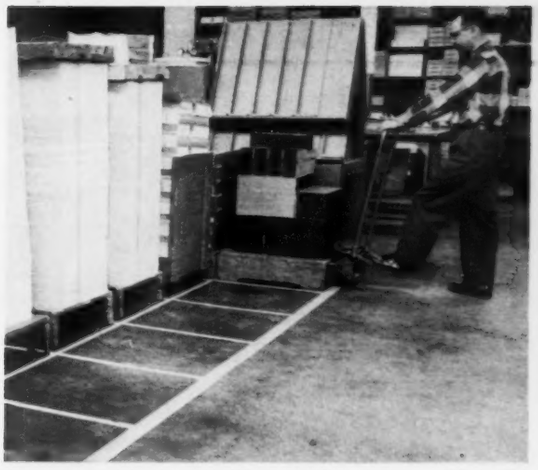
PIA Headquarters has urged those planning to attend the convention to make hotel reservations as soon as possible. The Hotels Chase, Park Plaza, Forest Park and Sheraton have been designated as the convention hotels. The Chase Hotel will serve as convention headquarters. Registration forms may be obtained by writing the Convention Dept., Printing Industry of America, 719 Fifteenth St., N.W., Washington 5, D.C.

Determining Paper Grain—Tear It, Fold It, Wet It

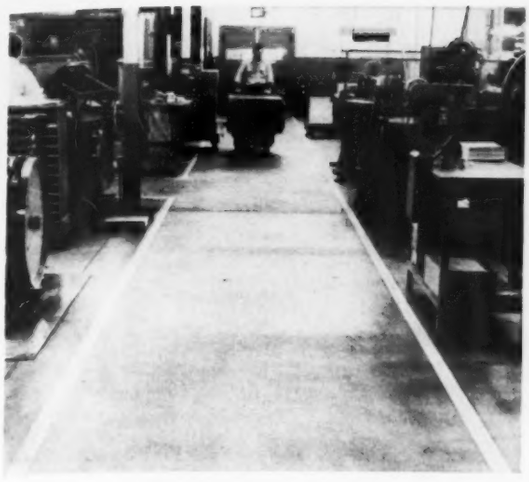
AN INTERESTING incident occurred at the St. Louis Craftsmen's convention. On Wednesday afternoon, August 13 a Production Problem Clinic was conducted by International President J. Homer Winkler, assisted by a panel of Eighth District Craftsmen. During the meeting, William H. Talley of the Modern Bindery, Tulsa, Okla. (a trade bindery), explained how to determine the grain of paper after a job has been delivered to the bindery. Talley said: "Tear the sheet, fold it, or wet it. By using one or all of the three methods the trade bindery can tell in which direction the grain runs in a sheet of paper."

Mr. Talley explained: "In the tear test, the greater jagged edge is indicative of across the grain. If a sheet bends easier one way than the other, that bend is with the grain; likewise, if a sheet is folded at right angles, the fold with the least wrinkle at the edges is with the grain. Sometimes it is necessary to wet the sheet. In this test the sheet always curls with the grain."

Remarked Chairman Winkler: "And to think, all this time research and scientific instrument men have spent a lot of time developing instruments to make these tests."



In the plant of De Luxe Check Printers, Inc., St. Paul, Minn., aisles in the mechanical departments are clearly defined with stripes of Scotch Plastic Film Tape.



In the skid storage area at De Luxe Check Printers, Inc., St. Paul, Minn., tape floor limit markings are used to designate sections showing exactly the proper position of skid loads.

Good-bye Hazards in Traffic Aisles

A METHOD for marking trucking lane and safety area strips on composing room, pressroom, and other mechanical department as well as storage area floors, has been announced by Minnesota Mining and Mfg. Co.

Tests with a single Scotch brand plastic film tape according to 3M, show that the marking method has 500% more life than previous striping material. In addition, maintenance men are able to apply the tape strips without loss of employee or trucking time in the taped-off areas, since no time is needed for drying. Taped areas can be used immediately.

The plant manager of a firm in Rochester, N. Y., it is reported, found that the tape outwore other striping materials five to one, after conducting comparative tests with the two materials on the firm's floors.

He also cited the following advantages for the marking system: (1) Damaged areas can be repaired or replaced easily. (2) The action of acids, alkalies, water, salt water, alcohol, and hydro-carbons such as gasoline and kerosene have no effect on the tape. (3) Its pressure-sensitive adhesive grips immediately on contact. (4) Due to its thinness (4 mils) no noticeable ridge is left on the floor's surface.

Two maintenance men, the 3M company explained, can adequately handle a firm's complete floor striping operation. However, before the tape is applied, the floor should be cleaned with a solvent such as carbon-tetrachloride and allowed to dry. The tape is then applied from the roll, positioned in a straight line, cut at the desired length, and pressed to the floor.

It grips immediately, and maximum adhesion can be achieved by applying additional pressure on the tape. One firm reported, "We run a hand truck with wide-rim wheels over the entire length of the tape stripe to press it down more firmly."

To help identify specific floor areas inside printing plants, the tape is made in six colors: Red, yellow, blue, green, orange and brown, and also in black and white. The 2, 3 and 4 in. widths are the most popular for floor marking jobs, it was pointed out.

One Chicago firm uses the 4 in.-wide yellow tape to designate smoking areas in its plant, while the 4 in.-wide red tape is used to designate extremely hazardous areas.

Another firm in Dallas, Tex., uses the 2 in.-wide white tape to mark trucking lanes, and the 3 in.-wide red tape to outline safety areas.

The tape is available nationally from paper jobbers in widths from ¾ in. to 18 in. or 36 yd. rolls, the 3M company explained.

Harris Continues Obsolescence Policy

FIVE Harris-Seybold machines have been classified as "dead" under the company's standard obsolescence program, it was announced recently by Ren R. Perry, Harris-Seybold's General Sales Mgr.

The action affects the manufacturing and supplying of parts for older machines that have not been produced by Harris-Seybold for many years. The company's obsolescence policy, announced in 1947, is in line with the usual obsolescence practices of other heavy equipment manufacturers.

Machines reclassified from Inactive to dead are:

Harris model S7L, 36 in. by 48 in. single-color offset press.

Harris model S8L, 28 in by 42 in. single-color offset press.

Harris model FT, 36 in. by 48 in two-color offset press.

Seybold model No. 5, Wright multiple spindle drilling machine.

Seybold model No. 6, Wright multiple spindle drill-slotting machine.

In making the announcement, Perry pointed out that supplying parts for machines that have not been manufactured for a number of years is a problem of increasing importance to all equipment producers. "This problem involves manufacture of the parts themselves, usually in uneconomical small quantities, and the storing of necessary tools, dies and fixtures in large quantities," he said.

Perry added that "Manufacturing parts indefinitely for older models also makes it extremely difficult to give proper service on newer machines. For these reasons, fair obsolescence programs are necessary to industry progress and sound customer relations, and are observed by most long-established producers of capital goods."

Every Harris-Seybold machine falls into one of three classifications:

ACTIVE—Models currently being manufactured.

INACTIVE—Models no longer being manufactured, but for which certain parts will be supplied. Any part that has not been ordered for seven consecutive years cannot be supplied.

DEAD—Models which have reached an age where the supplying of any service parts is no longer practicable.

If a customer orders a part that has been classified as Dead, Harris-Seybold will supply blueprints.

Perry further stated that changes in in the status of machines are made only after exhaustive study of Harris-Seybold parts service and manufacturing records. Wherever possible, the company has notified customers owning machines which have been reclassified, so that needed parts can be ordered before the closing date of December 1, 1952.

CRAFTSMEN'S

Technical D

WHILE the XXXIIIrd annual convention of the International Association of Printing House Craftsmen, held in St. Louis, August 10, 11, 12 and 13, was not the largest in attendance, yet it was an extremely fine source of useful technical information, industrial relations, and enthusiastic reports of officers under the leadership of President J. Homer Winkler. General Convention Chairman G. Stuart Braznell, President of Braznell Company, St. Louis, and his convention committee selected from the St. Louis Craftsman Club membership did an excellent job in keeping scheduled events moving along on schedule. Attendance was reported at about 710. In August 1953, the International convention will be entertained by the Dallas (Tex.) Club of Printing House Craftsmen. Craftsmen's ladies were well entertained by the Ladies' Committee under the chairmanship of Mrs. G. Stuart Braznell. Rather than indulge in panegyrics about the excellence of the program, *Printing Equipment Engineer* is reporting each session separately in this issue, and in some instances prints pithy summaries of speakers' addresses.

Revolutionary Composition Methods, Type Design and Layout Discussed at Craftsmen's Typographic Clinic

ONE of the topics discussed at the *Design and Typography Clinic* during the St. Louis Craftsmen's convention was furnished from the floor during the meeting. The question proposed was: *What can the typographer do to help* (a) *the letterpress printer and* (b) *the offset printer?* the question was asked informally and no general section of the letterpress industry was referred to. It seemed the asker of the question had in mind that a great deal has been done recently for the offset printer and by comparison the letterpress printer has drifted along. One answer to the question is that the offset printer has asked for more and has gotten it. Some of the responded-to demands are: (1) Better reproduction proofs, (2) Transparent proofs, (3) Layouts suited to the process, (4) Type faces entirely suited to offset reproduction, together with a number of process improvements which, taken collectively, have improved offset printing greatly.

Howard N. Keefe, Manager and Typographer of Cincinnati's Arrow Press, said the question with respect to the letterpress printer has been answered partly in Moderator Howard King's introductory address that phototypesetting be used in conjunction with magnesium printing plates. He stated that if more is learned about magnesium plates, eventually they will be more economical.

The Design and Typography clinic was presided over by Howard N. King, Vice President, The Maple Press, York, Pa. The meeting was planned in the form of a panel program. Members of the panel were: Wm. P. Gleason, Production Mgr., Colonial Press, New York, N. Y.; Howard N. Keefe, Manager and Typographer, Arrow Press, Cincinnati, O.; John Lamoureux, Vice President, Warwick Typographers, St. Louis; Glen M. Pagett, Typographic Director, Typographic Service, Indianapolis; A. R. Tommasini, Plant Mgr., University of California Press, Berkeley, Calif.; W. J. van Wormer, jr., Art Director, McCormick-Armstrong Co., Wichita, Kas.

In the course of his opening address, Howard King said that during the past five or ten years, there have been many changes in composing rooms. The one thing which has been lost, which if not regained, will have a serious effect upon the entire industry is quality. Said he: "It is your responsibility and mine to see that employees are properly instructed. Quality must be instilled into them at all

St. Louis Convention Excels in Talks on Commercial Printing Plant Operating Techniques, Human Relations and Reports of Expanded Association Activities—Holmquist New President

Discussions

times. You can begin by seeing that their particular working corner is kept neat and clean. Quality printing starts at the very top with management and works itself down to the errand boy. Each individual from the head man down must have it in his blood and his heart or the cause will be lost."

He stated that the profits of our composing rooms have been going down steadily. He asked: "Is this due to old and worn-out equipment, poor management, the attitudes of workers, the lack of planning or know-how?"

Need Plant Engineers

He continued: "More than ever we hear about the need of printing engineers —men who can streamline operations, so that every person will know exactly where to be and what is to be done at a particular minute of each hour . . . Quality printing and engineered plants go hand in hand. Without both I am afraid the time is coming when some of us will be swallowed up by those who know and realize the importance of quality printing and engineered plants."

Mr. King discussed photographic typesetting. He asserted: "Photo-typesetting introduces a new era in printing, as fully significant as the one which saw the birth of the linecasting machine." He said "This is a new era in the Graphic Arts and whether or not we intend setting type photographically, we must bring ourselves to understand this new development.

Continuing, Mr. King said: "In the book publishing field, I know two publishers who are having books set on this machine (Fotosetter) which will be printed letterpress. One book contains a few illustrations—the other practically none. These books will be printed letterpress rather than by offset, because the publisher feels the books will go through several editions. It is cheaper to print a book by letterpress if you know the book will be reprinted several times.

"The two books will be printed from 11 pt. magnesium plates rather than from 11 pt. electrotypes . . . When the photoengraving industry becomes better acquainted with magnesium it will be a boon to the letterpress industry. At this moment, in certain sections of this country, engravers are making duplicate magnesium plates for less than the electrotyper's scale . . . and the engravers say they are making more money than ever before.

"In time," King predicted, "we can expect to see many of our highly illustrated publications set by the phototype-set method and some of them printed by letterpress from magnesium plates."

During his address, King exhibited a number of different kinds of jobs—booklets, books and tabular composition all composed on the Fotosetter. These were obtained from users of the machine in various parts of the country.

At the close of his address, King explained that the machine is introducing a new way of setting display lines. In advertisements, the display line or lines can be set in 12 pt. size type and enlarged to fit the layout.

Interest in Type Faces

In the question and answer period someone wanted to know if the trend toward revival of Cheltenham also brings with it revivals of such type faces as Pabst, Parsons, Plymouth and John Hancock. Mr. van Wormer said he thought so but there was no way to tell how long their reappearance would be in vogue. He is not in favor of these revivals. Their temporary use is more of the nature of a hobby.

Someone asked the question: Why do the typefounders continue to bring out so many faces? Mr. Gleason said new faces are demanded by artists, layout men and designers. They give a different tonal effect.

Jackson Burke, Typographic Director of Mergenthaler Linotype Co. thinks revival of old type faces is not a luxury. Some of the old faces are resurrected from long-forgotten storage.

In referring to copies of a beautiful new type face, someone wanted to know why, instead of producing more or less likenesses of a new type face, why can't the type face sponsors interchange designs? Chairman King said this would be a desirable objective but is a complex subject and doubted whether or not it could be accomplished. Mr. Tommasini said the differences in design of several versions of the same type face enables one to distinguish the maker of a designated type face. Always there is, too, a change of name.

Weight of Comparable Point Sizes Questioned

M. F. McGrew of Pittsburgh, wondered why American founders follow original European faces with respect to point sizes so closely and why it wouldn't be possible to produce a good range in American sizes. Mr. Gleason said that American founders produce, for instance, a number of different sizes of 8 pt. faces, such as Caledonia and Granjon. Mr. Keefe said that to cover tonal range in body faces his firm, for instance, he put in three sizes of Futura—8 pt., 9 pt. and 10 pt. to cover tonal range desired in body matter. Mr. Tommasini remarked that you have to consider the tonal effects caused by ascenders and descenders.

Tom Stovall wanted to know how foundry type composition could be mixed with Fotosetter composition. It was explained that the two are combined through a reproduction proof of foundry type composition, the film being stripped in on the negative.

The question as to whether sans serif faces would ever displace roman faces for reading matter came up. Glenn Pagett, at the request of Chairman King,

Craftsmen in Attendance at St. Louis Convention

(All names read from left to right)

1.—Royce N. Kent, Assistant Supt., Bemis Bros. Bag Co., Omaha, Neb., and Eighth District Representative; Joe Boden, Sales Representative, Miehle Printing Press & Mfg. Co., Denver, Col.; J. Denter Rink, Cupples-Hesse Corp., St. Louis; Fred L. Bryant, Southeastern Representative Miehle Printing Press & Mfg. Co., Chicago.

2.—Albin Johnson, Sales Representative, Tilleston & Hollingsworth Co., Boston; William F. Gutwein, Director of Employee and Public Relations, C. T. Dearing Printing Co., Louisville, Ky.; Robert Pannier, New England Electrotype Co., Boston.

3.—A. T. Mann, jr., Vice President, Intertype Corporation; Oliver B. Granum, Owner, Granum & Company, Houston, Tex., who was killed in the crash of a private plane near the Missouri-Arkansas line en route home from the convention; N. C. Jamison, General Mgr., Kelley & Jamison Typographers, Memphis, Tenn.

4.—Adrian Olszewski, Manager, Fotosetter Dept., Warwick Typographers, St. Louis; Frank Keating, Superintendent, Bankers Life Printing Div., Des Moines, Ia.; John E. Helmer, and C. H. Mullinex, Jost & Kiefer Printing Co., Quincy, Ill.

5.—Raymond Via, General Mgr., Raymond Via Printing Co., Washington, D. C.; Jim Lawless, Chicago Factory Representative, Printing Machinery Co.; Millard Friday, Manager, Blatchford Div., National Lead Co.

6.—Andre Hughes, Printing Mgr., Harvey Turner Associates, Topeka, Kas.; Wm. J. Whitmore, Asst. Production Mgr., Paramount Paper Products Co., Omaha, Neb.; Stuart Braznell, General Mgr., Braznell Co., and General Convention Chairman, St. Louis.

replied. In the first place, you must be cautious about the spacing of sans serif type faces as well as between the lines. He doesn't believe they will ever displace roman faces for reading matter. "In reading matter," he said, "we must have contrast. With sans serif faces the effect is monotonous."

John Lamoureux agreed in principle with Mr. Padgett. But in overall range of sizes of sans serif, the face possesses the tendency to hold words together. However, since our children are being taught to read by recognizing words rather than through individual spelling, the sans serif faces do the job better than roman.

Howard N. Keefe said that personally he prefers not to read text composed in sans serif faces. He said that one test conducted by a university showed that the speed of reading of sans serif is only slightly greater than roman. In time, however, our children may accept sans serif faces and read them as fast or faster than we do roman. He feels we should have more tests on reading speed by scientific societies.

Type Design in Low Spot

Mr. van Wormer mentioned that right now we are in a low spot regarding type design and asked if there is any fresh thinking regarding type faces.

Dr. R. Hunter Middleton, Typographic Director, Ludlow Typograph Co., said we started with the Latin alphabet and "we're stuck with it." However, there is no reason why we can't vary letter design. There exists a terrific opportunity for variety. Thinks there will be variety before too long a time. The lower case "a" means just that, we can't change its meaning, but the design can be changed.

Walter Zahn, Milwaukee typographic compositor, wanted to know how long it takes to etch a magnesium plate as compared to a zinc plate. Mr. Goodman of Mercury Press, Washington, D. C., stated it can be done in two-thirds the time. Homer Green, Manager of the Wilson Engraving Co., Dallas, Tex., said the use of magnesium plates is relatively new; the metal etches faster and there is the tendency to etch cleaner. The drawback is in prevention of corrosion in storage of plates which are to be re-run.

Someone asked if type is damaged from the heat in Vinylite molding for electrotyping. Mr. Goodman, Mercury Press, Washington, D. C., stated all forms are locked with metal furniture. The consensus of opinion is that there is no damage to type in the molding process.

347 Million Impressions

Peter D. Nielsen, Plant Mgr., Moore Business Forms, San Francisco, said that his firm has obtained as high as 347 million impressions from magnesium plates. As printing use progresses, the plates take on a hard polish which makes for durability. In the use of the Fotosetter by Moore Business Forms over a $2\frac{1}{2}$ year period, it was related that there is a saving of 30% to 35% inclusive of making the offset printing plate over the former

(*Continued on page 72*)

Craftsman Knows Both Sides of Human Picture

THE Craftsman knows both the subordinate and superior's side of the human relations picture, said Claude V. McBroom in his address *The Craftsman's Part in Human Relations* before the St. Louis Convention of the Intl. Assoc. of Printing House Craftsmen in August. The Director of Mfg. of the Meredith Publishing Co., Des Moines, Ia., stated that most Craftsmen were once subordinates who climbed the ladder to executive responsibility as part of management. He described them as owners, administrators, executives, foremen and supervisors.

Mr. McBroom's talk was the highlight of the Human Relations luncheon held during the Convention. He was introduced to the audience by Robert L. Jolley, Scheduling Mgr. of the Meredith Publishing Co.

The speaker described both people and business as being interdependent, social and personal, and said, ". . . no person is motivated by thoughts of monetary gain only. You and I and our fellow workers are sensitive to considerations of pride, achievement, dignity, esteem, affection, honor, recognition, survival and security. These tendencies are deep rooted. They blossom with team work and understanding."

Understand your associates, he counseled the Craftsmen. If you want people to be friendly to you, you must be friendly to them. ". . . Give them the opportunity to know you. Too many hold aloof from workers. The main substitute for conflict is understanding. To get ahead, help others. Something good can be said about everyone. We only have to say it."

Four Management Principles

McBroom divided the principles of management under four terms, as follows: Organizing, which is understanding the delegation of duties and responsibilities. (2) The next principle, Planning, must be complete to the last detail. (3) Motivating is considering and bringing out the desires of all workers which are pride, achievement, dignity, recognition, etc. (4) The last, Controlling, is recognizing both good and bad.

He continued: "Every leader must cope with these (management's) problems and correctly handle the factors of management which are men, money, machines, materials, methods and minutes." Pursuing the subject, McBroom outlined "a definite plan" for the leader to follow. In this order:

1. Define your purpose. You must know what is to be done before you can know how to do it.
2. Analyze your problem.
3. Seek the facts.
4. Devise today's best way.
5. Select the person best fitted.
6. Teach.
7. Plan.
8. Win friendship.

Preparation for Leadership

In answer to the question, *What should you do to be prepared for leadership?* which he posed, Mr. McBroom advised: "Have faith and enthusiasm. Have a full appreciation of the true and lasting significance of one's work. Be sold on your job, the product of your company, your social and academic adventures, your church and religion, and *yourself*. If you are not sold, it is better that you resign as you cannot expect to sell others that which you yourself will not accept. Be enthusiastic because enthusiasm is contagious. It breathes faith into any project.

"The personality of an individual is made up of physical, mental, social and emotional aspects and each can be improved.

"Have initiative, openness of mind and ingenuity. One should be truly convinced that there is no end to improvement. There is never any one best way, there is only today's best way.

Judgment, Justice and Sympathy

"Have sound judgment and ability to think clearly. Think carefully, time decisions and act promptly. Be consistent by making each decision based on sound judgment. This is important because consistency arouses a responsive feeling of satisfaction and stability. Do not forget the knack of a critical self-analysis.

"Have a delicate sense of justice. Do not be biased. Build up in yourself the ability to get along with all kinds of people whether you like them or not, but try to like all as it is difficult to keep likes and dislikes from becoming known. There is no place for partiality in the conduct of a good leader. Remember that when prejudice and selfishness enter, reason, justice and simplicity exit.

"Have dynamic power without bullying. This type of power includes such traits as frankness because it encourages frankness; calmness, because it aids others in self-discipline; and firmness, because it lies halfway between obstinancy and irresolution.

"The leader must possess sympathy. This is the power of seeing the other fellow's point of view. It includes such traits as receptiveness which eliminates the others' nervousness and hesitancy; tactfulness because tact is born of a regard for the personality of others; and courteousness because it is the great defensive tool of the leader.

Preserve Your Health

"Health is a dominating factor in the life of every individual. One who has good health has the ability to work and work hard. To preserve that health we should remember that activity is of value only in terms of attainment.

"Cultivate a tone of voice and manner of speech to which others will listen. Say exactly what you mean, but say it with simplicity because simplicity brings mutual understanding.

"Familiarize yourself with the functions of your work and especially that part with which you are directly connected.

A Hand of Steel

"The leader must have courage. This does not mean gambling or being reckless. Determine that which is right and then have courage of convictions to work toward it. Courage is doing, not dreaming. It is the trick of turning defeat into experience and using it to achieve success. It is the elimination of the three microbes of weakness—regret, worry and fear. It is self-reliance clothed with modesty, persistence, plus politeness. It's a hand of steel in a glove of velvet.

"Have a sense of humor. A man with a real sense of humor has the ability to smile, laugh and play. There is no place in the leader for practical joking, sarcasm or grouchiness."

In closing, McBroom advised the commercial printing plant leaders, ". . . go out of your way to compliment the worker for something well done. Don't expect any immediate reward yourself. Your rewards for being a good executive will come to you later."

Causes for Wear in Plates— Other Problems

AS THE discussion progressed at the Production Problem Clinic, St. Louis Craftsmen's Convention, on August 13, it seemed that production executives, especially those handling plates, still have a number of problems which have not been solved. Mostly, these are related to paper, ink, plates, art, and bindery work. In a spirit of helpfulness, however, solutions to some of the problems were presented from the platform by panel members. Answers to many problems have not yet been found by equipment and supplies manufacturers nor by research organizations. Suggestions for minimization of most of the problems were made from the platform.

J. Homer Winkler, President of the Intl. Assoc. of Printing House Craftsmen presided as chairman. He was assisted by an 11 man panel all of whom reside in the Eighth District, as follows:

Letterpress Presswork—L. P. Albaugh, Pressroom Supt., Meredith Pub. Co., Des Moines, Ia.

Composition—Ted Andrews, President, Ted Andrews & Sons, Wichita, Kas.

Photoengraving—Charles S. Barger, Superintendent, Holland Engraving Co., Kansas City, Mo.

Ink—John Braznell, Secretary-Treasurer, Braznell Company, St. Louis, Mo.

Rollers — Robert Dunn, Manager, Sam'l Bingham's Son Mfg. Co., St. Louis, Mo., branch.

Electrotypes—Gene C. Meston, Vice President, Capital City Printing Plates Co., Des Moines, Ia.

Offset Presswork—Milford Mild, Southwestern Div., Western Printing & Litho Co., St. Louis, Mo.

Bindery—Wm. H. Talley, Modern Bindery, Tulsa, Okla.

Copy Preparation and Layout—W. J. van Wormer, jr., Art Director, McCormick-Armstrong Co., Wichita, Kas.

Offset Plates—Willard J. Roeder, President, Beaumont Art Studios, St. Louis, Mo.

Paper—Gardner Wright, President, Acme Paper Co., St. Louis, Mo.

Register Hazards in Making Electros

The first question was related to the making of electrotypes as follows: *At what point, or points, is register apt to be lost in making color process electros?* Gene Meston was requested to answer the question by Chairman Winkler. Meston said: "There are a number of points in the making of electrotypes at which register may be disturbed: (1) In molding, (2) In plating the shell, and (3) In the casting operation. However, all three hazards are controllable, but the casting operation is the worst. Distortion or dimensional change occurs mostly in the cooling operation. Conscientious electrotypers are careful to prepare color plates as near simultaneously in one operation as possible, particularly in making all plates in the set, if possible, in the same mold with the same cast under as nearly identical conditions as possible. He described briefly the accurate qualities of electrotypes made by the Hydro-casting method in which metal is delivered under pressure and the electro likewise is cooled under pressure at a specifically controlled temperature.

Curve-Cast Electros

Gene Kramer, Cincinnati (O.) Club, wanted some information about the centrifugal casting of electrotypes which was developed in the plant of the Capital City Printing Plate Co., Des Moines. Chairman Winkler assigned the question to Mr. Meston. Meston explained the process briefly by stating that electros made by the centrifugal process are cast-curved in one operation. The shells are positioned inside a drum and the molten metal is poured from a ladel while the drum is revolving. After solidification, the cast is removed from the drum. The circular cast is then taken to a special saw with which the plates are cut apart. The separate plates are then shaved and beveled. Meston stated that plates made by this process register better, the texture of the metal is better and the plates fit the press cylinder better.

Roller Wear on Plates

Manager Robert Dunn, St. Louis branch of Sam'l Bingham's Son Mfg. Co., replied to a question related to excessive wear on plates due to inking rollers. This wear, particularly with composition rollers will occur if the rollers are excessively hard. The roller making industry has been for a long time and is continuing to work on an all-purpose roller but has not yet come up with the answer.

It seemed that the discussion at this meeting became centralized for a time about the causes for plate wear on presses because of inks, rollers, paper, and true rolling contact of plate and impression cylinders.

Ink Wear on Plates

Chairman Winkler asked John Braznell to comment upon the question: *To what extent do inks wear printing plates and*

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Safety, Willard A. Anderson, Washington, D. C.
Supervisory Training, William Gutwein, Louisville, Ky.

APPOINTED DISTRICT AND DEPUTY REPRESENTATIVES:

1st, James T. McGowan, Providence, R. I.
2nd, Richard Seymour, Latham, N. Y., Albany Capital District; Bradley S. Peters, Deputy, Utica, N. Y.
3rd, George Mitchell, Hamilton, (Ont.) Can.
4th, John Osias, Richmond, Va.
5th, William C. Arens, Cincinnati, O.; Ken N. Cramer, Deputy, Cincinnati, O.; Carl H. Larsen, Deputy, Indianapolis, Ind.
6th, Earl S. Ellis, Milwaukee, Wis.
7th, Joseph McConnaughey, Atlanta, Ga.
8th, Ben Edwards, Wichita, Kan.; George E. Hogan, Deputy, Cedar Rapids, Ia.
9th, Dewey Reno, San Antonio, Tex.
10th, Kenneth Comfort, Seattle, Wash.
11th, Peter Nielsen, San Francisco; Eugene Gallagher, Deputy, San Francisco.
12th, Blair Lord, Riverside, Calif., Citrus Belt; Andy Chuka, Deputy, Phoenix, Ariz.; Wallace Asdel, Deputy, Los Angeles.
13th, Herbert Threlfall, Providence, R. I.
14th, Elmer H. Tess, Duluth, Minn., Duluth-Superior Club.

what are the ink makers doing about it? Braznell said it is possible for plates to wear because of the ink. For instance, in the case of a white opaque ink containing titanium some wear may be caused. However, a properly formulated ink will not cause plate surface wear. In one plant, he said, the pressroom gets from five to six million impressions from rotary press plates. Mr. Braznell stressed particularly that the pressman should adjust his press to have as perfect engagement as possible of paper and plate. Pigments will contribute to plate wear if the plate and impression cylinders are not in true rolling contact. All ink makers are trying to turn out inks with particle size of five to six microns. In the past, ultramarine blue has been an offender. Now, in place of ultramarine blue, ink makers have phthalocyanine pigments. He also explained that if an ink is allowed to stand for several months, there will be a change from hard to soft in some particles, whereas if the ink were to be used as soon as formulated the particles would not be properly wetted and would exert an abrasive action on the plate. The shape of the particle has more to do with abrasive action than the size of the particle. Some particles if hard and of diamond or triangular shape, even if small, will cause plate wear. Conversely, the larger particles, if soft, do not cause plate wear.

Wear on Offset Plates

The next question was related to excessive wear on offset plates during the press run. The principal reason for this wear is overpacking the blanket cylinder. Press pitch line should be maintained closely.

Paper Wear on Plates

Mr. Wright discussed the probability of paper causing plate wear. While it is not possible to transmit his discussion completely, he stated that in making coated paper clay is used; naturally, it is somewhat abrasive. When synthetic clays are used, however, the abrasiveness of the coating does not cause as much plate wear. In other papers where clay is used as a filler, the effect proportionately is the same. Paper should be watched by the pressman. He added that in the case of Kromekote stock where offsetting occurs during the folding operation, the printer should get in touch with his ink maker. Kromkote is processed with synthetic clay.

Layout Short Cuts

W. J. van Wormer, jr., was asked if he knew of any short cuts in making layouts. He said considerable time can be lost in a plant when a layout for a given job has not been prepared. He suggested that the best way to overcome this problem is to make a lot of layouts in miniature about the size of postage stamps. In other words, said he, "Doodle with your pencil so that you will have a selection of designs ready—and quickly." Another way is to keep a set of designs in mind at all times. He suggested that the artist or

(*Continued on page 71*)

Representative of the 710 Craftsmen at Recent Convention

(All names read from left to right)

7.—At Fifth District Breakfast during Intl. Assoc. of Printing House Craftsmen's convention, St. Louis (at head table, left to right): Lee Augustine, Vice Pres., Printing Machinery Co., Cincinnati, O.; Jack Oding, Secretary, Capital Photoengravers, Lansing, Mich.; John Morehouse, Harris-Seybold Co., Cleveland; J. Homer Winkler, Technical Advisor, Battelle Institute, Columbus, O.; Bob Wolfe, Richardson-Taylor-Globe Co., Cincinnati, O.

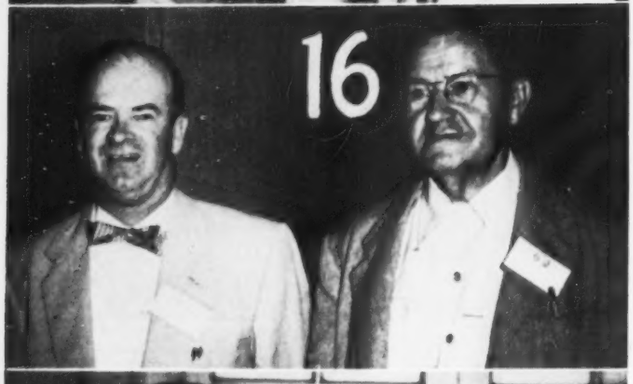
8.—Some of the Cleveland Craftsmen attending the St. Louis Convention. Harry J. Abrams, Owner, Caxton Printers Supply Co.; Ronald M. Abrams, son of Mr. Abrams; George Wise, Superintendent, Dugan-Millis, Inc., and Intl. Membership Chairman; D. W. Stock, Manager, Lawrence Electrotype Co.; Arthur O. Fiebert, Production Mgr., Prompt Printing Co., and President of the Cleveland Club; Paul J. Ullman, Steffan Print Shop; W. Donn Barber, Owner, Adcraft Printing Co.; John Morehouse, Central District Mgr., Harris-Seybold Co., all of Cleveland.

9.—Mrs. Emil L. Borak and Mrs. C. G. Morris, Dallas, Tex.; H. David Siegfried, Philadelphia; Miss Barbara Borak, Dallas, Tex.; Walter Scarborough, Composing Room Supt., Cuneo Eastern Press, Philadelphia, promote future Craftsmen's convention cities in regional garb.

10.—Herve W. Surrey, Roberts & Porter Representative, San Francisco; Don Grant, Mid-western Representative, Litho Chemical & Supply Co., Inc., Chicago; William Gleason, Production Mgr., Colonial Press, New York, N. Y.; R. A. Surrey, Industrial Graphic Services Co., Kansas City, Mo.

11.—Carl Dyer, Asst. Production Mgr., Sandel Printing Co., St. Louis; Vincent Gianoni, Manager, Bauer Alphabets, Inc., New York; George Wise, Superintendent, Dugan - Millis, Inc., Cleveland.

12.—Glenn M. Pagett, Typographic Director, Typographic Service Co., Indianapolis, Ind.; Dr. R. Hunter Middleton, Typographic Director, Ludlow Typograph Co.; Harold Lauck, Head, Journalism Laboratory, Washington and Lee University, Lexington, Va.



The Camera Records Craftsmen from Many Cities

(All names read from left to right)

13.—Howard King, Vice President, Maple Press, York, Pa.; Ira D. Pilliard, Milwaukee Vocational Schools, Milwaukee, Wis., was chosen Outstanding Craftsman of the Year in Sixth District.

14.—Mark Wilson, Production Mgr., Donaldson-Woods Co., Atlanta, Ga.; Walter W. Summey, Composing Room Supt., Johnston Printing and Advertising Co., Dallas, Tex.

15.—Frank Rush, Sales Representative, Charles Hellmuth Printing Ink Corp. of Ill.; John Wyrsch, Sales Representative, Jos. F. Kelly, Inc., St. Louis, Mo.

16.—Cyril C. Stanley, President, Lithographers Plate Service, North Hollywood, Calif.; Perry R. Long, General Mgr., Bryan-Brandenberg Co., Los Angeles.

17.—Henry Schneider, Secretary and Comptroller, Charles Francis Press, N. Y.; W. T. Clawson, Advertising Mgr., Miller Printing Machinery Co., Pittsburgh, Pa.

18.—H. Guy Bradley, Production Mgr., Eli Lilly & Co., Indianapolis, Ind.; Herman F. Ewell, Milwaukee (Wis.) Branch Mgr., Ideal Roller & Mfg. Co.

Big 3 Clinic

Deals with Developments and Advantages in Major Printing Processes

A DISCUSSION on the merits and recent developments of the three major printing processes — letterpress, offset and gravure—composed a clinic appropriately labeled *Looking Ahead With the Big Three* held at the Intl. Craftsmen's Convention in St. Louis. Presiding was Edward A. Aitken, Chairman of the Intl. Technical Commission and Service and Public Relations Mgr. of Ault & Wiborg Co. of Canada, Ltd., Toronto.

Milton Mild, the first speaker at this session, said that though it is exciting to speculate on the future developments in offset-lithography, the immediate problem for offset printers is to learn better how to use the new developments and tools that are already at the industries' disposal. Mild's paper was entitled *Future Developments in Offset-Lithography*. He is Superintendent of the Lithographic Art Dept. at Western Printing & Lithographing Co., St. Louis.

"There is an unfortunate reluctance on the part of our industry," he declared, "to make full use of the technical developments that have passed the stage of experiment and have proved their practical worth." As an excuse for this reluctance, he mentioned the "highly technical nature" surrounding each. The immediate problem, he added, was for each Craftsman to learn how to use these tools and then determinedly to do it.

Thirty Significant Developments

Mr. Mild related that more than 30 significant developments made available in recent years can be used to advantage by the offset printer. Of these, he chose a few to explain to his audience which he added can contribute to improve quality, and bring about greater production in the offset plant. He said: "You must make up your minds to train yourself and your co-workers to learn to use them properly so as to obtain the greatest advantage from them. You will have to face the fact that you will meet opposition, that you will have to overcome the 'we've always done it this way' attitude, but that is part of your jobs as craft leaders."

He named the non-shrink film base available to the offset industry now as the first development. Explaining that its use solves the problem of register due to its dimensional stability, he commented that the film base ". . . steps up both quality and quantity of output."

Contact Screens

The contact screens in 40 in. rolls soon to be available for offset printers which will afford sharper detail and tone control, was mentioned by the speaker. Included also were the standardization and

control instruments developed since the war. He named the latest of these instruments as the paper pick tester and the inkometer.

On the subject of electronic pH measuring devices, Mild commented on the increased demand for the installation of pH control equipment. He said that the annual convention of the Instrument Makers of America it was reported that lithographers bought more pH meters last year than any other industry. Mr. Mild reminded the Craftsmen that many precision instruments for quality control are now at their disposal. He finished his comments on this subject with the advice, "... the old hit or miss methods cannot stand up in the competitive conditions of today."

Offset Plates Available

New plates available to the industry, said the speaker, included the copper-aluminum, Lithure, tri-metal and Aller plates. Their effect on offset printers has been to bring about a re-examination of conventional platemaking procedures and to result in some definite improvements in them.

Mild continued: "... we have been running 25 per cent behind the capacity of our presses for years largely because in too many cases we have been sending plates to the pressroom that looked good but which the pressman has to baby along to keep them scumfree, or to force ink and acid to keep them from blinding."

Plate surface treatments that stopped oxidation, the ability to make coatings stick, knowledge of the desensitization of non-image areas and how to run with less water and less acid, he named as advancements made to improve both the life and quality of conventional plates in those plants that have adopted them. He added: "I don't believe more than 15 or 20 per cent of the plants have really mastered these new techniques, and these are largely these plants most sensitive to controlling production costs."

Pre-sensitized Plates

Pre-sensitized plates are now becoming available, the speaker said, up to the 22 in. by 34 in. sizes. He explained that the greatest use for these plates is in the duplicating field. He related briefly his experience with ungrained aluminum plates and concluded that more development work on this type of offset plate needs to be done before they can be scheduled for regular commercial work.

Mild predicted that the recently developed scanners for making color separations will become standard equipment in the offset-lithography industry. He added that the capabilities of these scanners, at present, are beyond the skills of the offset printer, but pointed out, "... the very fact that it is capable of such superior work is a challenge to us to concentrate on developing our skill to the point where we can get the most out of it."

Reduced Retouching Time

The offset speaker listed another trend as the increased use of masking for color correction. He said: "The successful use of masking in a plant depends on how well the camera and art departments get together and how good a selling job can be done on the artists to convince them that masking has been introduced to make their jobs easier. The demand for more color reproductions will increase with our ability to reduce time and cost in the preparation of a set of printing plates." Mr. Mild related that masking has reduced retouching time in three of his firm's plants by approx. 50 percent and has improved the quality of reproduction.

In closing, he remarked about the static printing process which he said was well along in development. He named this as one of the new processes that may replace all of the present printing processes that are in use today. He advised the Craftsmen: "... don't sit back and wait for these processes. Use the tools you have now."

Letterpress Makes Strides

"THERE is nothing in lithographic or gravure processes for any letterpress printer to fear," said Robert E. Thiele, General Supt. of the Western Div., U. S. Printing & Lithograph Co., Cincinnati, O., in his address entitled *Letterpress Makes Strides*. He reiterated that these processes should rather be a spur to further effort toward improvement in letterpress methods.

Letterpress printers, he said, can learn much from the procedures developed by lithographers in working out solutions to their many problems. He paid recognition to the Lithographic Technical Foundation which he declared has led the field in establishing methods and procedures for offset printers.

He continued: "I am sorry to report that I have not been able to locate any sugar coated pills (for the letterpress process), and that there are still some aches and pains that require extended treatment. ... some developments are taking place which indicate that cures will be available."

Thiele related that from his efforts in contacting equipment manufacturers, it was apparent that users of specialty presses are receiving more attention than the regular commercial printer in the way of developing new and faster equipment. He called on the Craftsmen to inform the manufacturers of their problems, either individually or in groups, and provide them with sound reasons on why changes are needed in present day equipment.

Presses for Small Printer

He noted that there is a trend to provide special types of presses to meet the needs of the small printer. Mr. Thiele described the small shops as that part of the industry that seems to have been taken for granted and neglected for many years.

Continuing on the subject of the small printing plants, he said: "... many small shops are operated by excellent craftsmen who produce some of the finest printing in this country. These shops are often models of order, efficiency and cleanliness. ... many of our large successful printing plants had their humble beginning in a small shop.

"Today's methods can only be improved if we keep an open mind and have no fear of trying new techniques and changes. Many letterpress printers have hesitated to try new methods for fear of increasing their costs. Those who have tried can prove that the costs involved are more than recovered by increased efficiency, better quality, decreased spoilage and greater production."

The speaker said a combination letterpress and offset plant many times affords the application of methods or techniques used in one process to the other. He cited a dampener roller wash-up machine used in his company's offset department as an example. He explained, "After observing it in operation one day, one of our letterpress pressmen requested permission to clean some of his rubber rollers on this machine. The result was that we found it

Plastic Hand Type Reported on Road

PLASTIC hand type, it is understood, will be offered on the market before too long a time. The comment was made at the Type and Design Clinic of the St. Louis Craftsmen's convention. No elaboration of the statement was made by the speaker and no questions were asked by those attending the Clinic.

1953 Craftsmen's Convention and District Conference Cities

THE 1953 Convention of the Intl. Assoc. of Printing House Craftsmen will be held at the Adolphus Hotel, Dallas, Tex., September 13, 14, 15 and 16.

The 1953 mid-winter meeting of the Intl. Board of Governors will be held at the Sheraton-Gibson Hotel, Cincinnati, O., February 14 and 15.

The 1953 District Conference cities are as follows:

1. Providence, R. I.
2. Albany, N. Y.
3. Hamilton (Ont.) Can.
4. York, Pa.
5. Lansing, Mich.
6. Delavan Lake, Delavan, Wis.
7. Nashville, Tenn.
8. Tulsa, Okla.
9. Dallas, Tex.
10. Pacific Society, Los Angeles.
11. Pacific Society, Los Angeles.
12. Pacific Society, Los Angeles.
13. None.
14. Duluth, Minn.

Craftsmen Participating in Recent Convention in St. Louis

(All names read from left to right)

19.—Jerome A. Hayes, Chicago, Western Mgr., American Printer; Fielding Utz, President, Milwaukee Printers Roller Co., Milwaukee, Wis.; Elmer Leach, Proprietor, Leach Printing Co., Des Moines, Ia.

20.—C. E. Howell, Composing Room Supt., McCormick-Armstrong Co., Wichita, Kas.; Homer Green, Manager, Wilson Engraving Co., Dallas, Tex.; Clarence Hotvedt, Art Director, Western Litho Co., and W. L. Quinius, Secretary, Herman Quinius Multi-Letter Co., both of Wichita, Kas.; John Osias, Branch Mgr., Printing Ink Div., Interchemical Corporation, Richmond, Va.

21.—Amos Hoffman, Special Representative of the Vice President, Intertype Corporation; Claude H. Eads, Manager, Printing Div., University of Texas, Austin, Tex.

22.—Joseph McConnaughey, Southern District Mgr., Harris-Seybold Co., Atlanta, Ga.; Gene Meston, General Mgr., Capital City Printing Plate Co., Des Moines, Ia.; John W. Roberts, Production Mgr., New Orleans Public Service, Inc., New Orleans, La.

23.—Ben Edwards, Secretary, Kel Litho Artists, Inc., Wichita, Kas.; W. J. van Wormer, jr., Art Director, McCormick-Armstrong Co., Wichita, Kas.; Royce N. Kent, Asst. Supt., Bemis Bros. Bag Co., Omaha, Neb.

24.—Ferd Voiland, jr., Kansas State Printer, Topeka; Clarence Jones, Pressroom Supt.; Guy Hovenden, Job Dept. Supt., and Ernest Johnson, Typographic Designer, State Printing Office, Topeka, Kas.

very efficient and easy to use for this purpose. We do not only clean, but treat or pumice all of our rubber rollers, both offset and letterpress, on this machine when they become too dirty for the regular press wash-up machines.

"The rollers which form a part of the machine, and drive the press rollers which are being cleaned, not only provide the necessary motion, but also a very firm support and help to actually remove anything that is loosened on the rollers."

Helpful Methods

He listed a proper layout, a method of scheduling, methods for materials testing, research and services as ". . . helpful methods which can contribute nothing directly, but which supplement the work in such a way that the final result is a smoother operation and better production."

He suggested that Craftsmen avail themselves of the services of printing supplymen whom he said have had the opportunity to acquire a great deal of information which is of value to the printer. Thiele paid tribute to these men for their efforts to improve the product which they handle.

Support R&E Council

The speaker reminded the Craftsmen that the International Board has gone on record for the support of the research program under way by the Research and Engineering Council of the Graphic Arts Industry. He called upon the assembled printing plant executives to give this worthwhile project their active support. He listed the activities and projects being pursued by the R&E Council. (A description of these projects appeared in the July 1952 issue of *Printing Equipment Engineer*.)

Letterpress Not Losing

In his summary, Mr. Thiele said: "Letterpress printers have bemoaned the fact that they are losing business to both offset and gravure. They quote individual cases to prove their point. They even refer at times to the numerous advantages these processes are believed by them to have. That this condition is not true is proven each year by published statistics. There is no denying the fact that both offset and gravure have grown more rapidly and are continuing to grow more rapidly than letterpress. It is equally true, however, that letterpress has not only held its own but that it has also increased year by year.

"Observations by qualified individuals who are not actively engaged in any one of the three processes will usually result in a recognition of the value of each one. Each process has definite advantages. When one of these advantages predominates, it definitely indicates which process should be used. When no one process seems to have a definite advantage, there still seems to be a trend toward trying a new process. I am very hopeful that the new research and development activity will result in a more satisfied letterpress industry, making greater efforts to improve the process as well as the product."

Gravure Presents Continued Challenge

The next speaker on the Big Three panel was Frank M. Preucil who spoke on the gravure process. Preucil is Research Director of Chicago Rotoprint Co., Chicago. The following is an abstract of his talk entitled *Gravure Presents a Continued Challenge*:

LETTERPRESS has long been the reliable way of printing text type, and quality halftone and color reproductions on coated papers. Letterpress, however, must use coarser halftone screens on rougher papers, requires considerable makeready time and has poor multicolor ink trapping at high speeds.

Offset plates are quicker and cheaper to make than letterpress, need no makeready and print finer screens on rougher papers. Better coated papers in recent years have enabled offset to challenge letterpress in its former stronghold. The inherent use of water in offset printing however, demands the use of more expensive paper and inks.

The field has been wide open for a process which could match the highest quality of any method, with increased speed and cheaper papers. Gravure is the answer to this challenge.

Influence the Boys in Choosing Profession

HAROLD SANGER, well known Chicago school instructor and Craftsmen's Club member, made a constructive suggestion at the Type and Design Clinic during the St. Louis Craftsmen's convention. A number of comments had been made by various speakers who are puzzled at the general unwillingness of boys to undertake apprenticeships in printing plant composing rooms. The problem is nation-wide.

He suggested that printing management executives collectively should take a lesson from the aviation and other industries who publish brochures which are placed in the hands of boys who are about to decide what trade they will go into. He warned, however, that the brochure should be placed in the hands of the boy before he decides finally on just what trade he wants to adopt immediately after leaving school. In the brochure it should be carefully and attractively explained just what the boy may expect if he chooses a composing room profession. Discussion with parents with the aid of the brochure would bring a sufficient number of desirable boys into the industry.

The election of Ren R. Perry (left), W. Ray Spiller (center) and George C. Houck (right) as vice presidents of sales, engineering and operations respectively of Harris - Seybold Co., was announced recently by George S. Dively, President, and R. Verne Mitchell, Chairman of the Board. Perry, named Vice Pres. for Sales, has been associated with H-S since 1926 and has served as the firm's general sales manager for the past three years. Harry A. Porter, formerly vice president in charge of sales, becomes the company's Senior Vice Pres. Spiller, elected Vice Pres. for Engineering, was formerly chief engineer of Harris-Seybold. Charles W. Harrold, formerly vice president in charge of engineering and research, continues as a vice president of the company in an advisory capacity. Houck moves into the newly created post of Vice Pres. for Operations. He was formerly assistant to the president and was also the organization's planning director.

Big Volume to Gravure

Printing buyers and plant owners are now looking at all three major processes with big volume users swinging strongly to gravure. As an example of this, the largest contract in the printing field recently switched from letterpress to gravure. For over $60 million dollars the *American Weekly* is now a 10 million edition with better quality.

Printing plant production can be measured in impressions per hour but the large volume printing that much of gravure typifies is better realized in miles. As an example, the average printed production in our plant, of two sides 1 to 4 color webs, 6 ft. wide, runs about 7000 miles a week. This would practically cover a two lane highway from New York to San Francisco every week. The yearly output would wrap around the earth at the equator 14 times.

Sometimes an industry can be judged by one basic factor. In the printing industry, ink is a good measure of growth. Records are available back 35 years and we find that last year 200 times as much gravure ink was made as in 1915. The 70 million lbs. sold in 1951 with normal coverage would print solid color on almost 2000 sq. mi. of paper.

Two Gravure Fields

Gravure printing is basically divided into two major fields, publication and packaging. In the publication field, 90 national magazines are now printed by gravure. Sunday monotone brown sheets supplements have been transformed to mostly full color in 112 papers. Rotogravure is now claiming over 85 percent of the major mail order catalog pages.

The packaging field has undergone a revolution in the past 10 years. Point of purchase window and counter displays once contributed a large volume to color printing, but as more and more stores change to self service there is much less space for these aids and the product itself must now attract the buyer. There are now over 400 thousand grocery stores in the United States but 88,000 of these chain stores do 75 percent of the total business with few clerks. A package used to be something to put something in, but now it must also sell itself to impulse buyers. This places a premium on good product reproduction and gravure is doing the best job of color tone reproduction on cardboards. The switch to gravure for package printing amounts to a 500 percent increase in the past ten years.

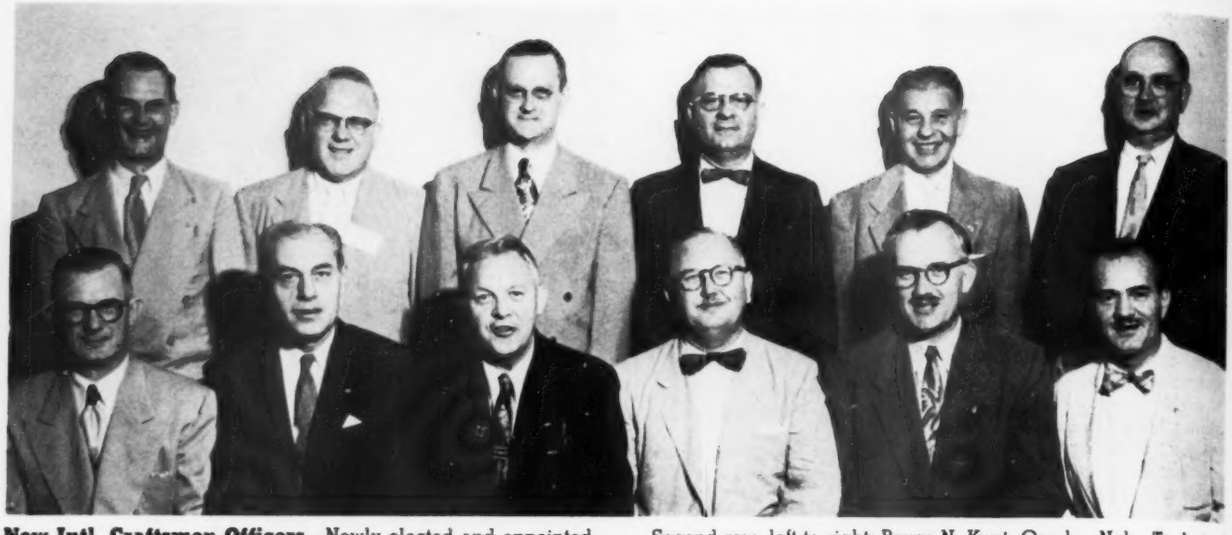
The rapid drying inks and lacquers of gravure are ideal for carton printing, and the inline operations of printing, coating, applying gold, lacquers, laminating, embossing, sheeting and die cutting all performed in one passage through the press give economies in material handling. Besides being the best way to print quality cardboard packages, gravure is also the best way to print transparent wrappings.

Less Than Cost of Cost

THE old cost bugaboo reared its head at the Production Problem Clinic during the St. Louis Craftsmen's Convention. Chairman J. Homer Winkler made the remark he understood that in certain sections of the country makers of magnesium printing plates are selling them under cost. Gradie Oakes, Process Color Plate Co., Chicago, arose to state: "Yes, and I know of some fellows that sell all kinds of plates at less than a cost which is lower than actual cost."

Gravure is not a specialty limited to long run publications or packaging. It is producing a wide diversity of products, such as: Metal auto panels, hard wood grains directly on soft woods, table cloths, draperies, shower curtains, wall panelling, laminated floor coverings, leather designs, formica table tops, rubber floor mats, roll film backing paper, Scotch tape, gift wraps, match folders, cigarette

(*Continued on page 77*)



New Intl. Craftsmen Officers—Newly elected and appointed officers of the Intl. Assoc. of Printing House Craftsmen are shown above. First row, from left to right: Albert L. Kolb, Buffalo, N. Y., Treasurer; Henry A. Schneider, New York, Third Vice Pres.; Howard N. King, York, Pa., First Vice Pres.; Gordon J. Holmquist, Los Angeles, President; Thomas P. Mahoney, Chicago, Second Vice Pres.; J. Homer Winkler, Columbus, O., Past President. Second row, left to right: Royce N. Kent, Omaha, Neb., Technical Commission Chairman; George E. Hogan, Cedar Rapids, Ia., Publications Commission Chairman; Pearl E. Oldt, Cincinnati, O., Executive Secretary; Lee Augustine, Cincinnati, O., Representative-at-Large; A. R. Tommasini, San Francisco, Public Relations Chairman; George Wise, Cleveland, Membership Chairman.

Supply Men's Guild In Healthy State

UNDER the presidency of Carleton Mellick, Vice President of Miehle Printing Press & Mfg. Co., a substantial growth in membership of the Intl. Printers Supply Men's Guild was experienced during the past fiscal year. This report was made at a Board of Directors meeting held at Hotel Jefferson, St. Louis on Monday night, August 11. It was also reported that the International Guild now consists of approx. 800 members, with 10 local chapters. There are live prospects for the establishment of five additional chapters in the United States.

At the annual dinner on Tuesday noon, August 12, President Carleton Mellick presented a charter to the new St. Louis Guild's president. At this meeting, Kenneth Yost of National Metal Trades Association, spoke on the subject of *Human Engineering*. His address was well received and was inspirational in nature.

The following officers were elected: President, Norman Rowe, Vice President of Ideal Roller & Mfg. Co.; First Vice President, Lee Augustine, Vice President of Printing Machinery Co.; Second Vice President, M. M. (Manny) Caldwell, District Mgr., Sam'l Bingham's Son Mfg. Co.; Secretary, Myron Lewis, Vice President, *Graphic Arts Monthly*; Treasurer, Damon Moore, Dallas (Tex.) Representative, Miehle Printing Press & Mfg. Co.

Suggested New Profession

SOME good natured badinage occurred during the Production Problem Clinic at the St. Louis Craftsmen's Convention in August. After some discussion related to plate wear caused by inking rollers, ink, paper and rolling contact of plate and impression cylinders, W. J. van Wormer, jr., Art Director, McCormick-Armstrong Co., Wichita, Kas., asked the privilege of the microphone. Van Wormer said: "You fellows have been talking exhaustively about the abrasive action of rollers, ink, paper and press adjustment on paper. I am now wondering why in hell you don't get together and manufacture abrasive sand paper."

Schneider Chosen at Craftsmen's Caucus

Henry A. Schneider, Corporate Secretary and Controller of the Charles Francis Press, Inc., New York, was elected Third Vice Pres. of the Intl. Assoc. of Printing House Craftsmen in one of the two most important contests decided at the annual midnight caucus during the Craftsmen's Convention in St. Louis. The other contest pitted Buffalo against Philadelphia in the selection of the 1954 Convention city. Philadelphia was chosen by the voting delegations from the individual clubs.

Presiding at this year's caucus was Len Thomson of Toronto, Can. He is a sales representative for the Canada Printing Ink Co. Thomson succeeded Basil M. Parsons of the Providence Club in the chairmanship of this meeting.

Tellers at the meeting were George Wise of Cleveland and David Motheral of Fort Worth, Tex. Wise is Superintendent of Dugan-Millis, Inc., and Motheral is Assistant Supt. of the Motheral Printing Co.

Following a pattern set at previous conventions of stating a preference for the convention city of the Association's

(Continued on page 78)

Outstanding Craftsmen

AWARDS in recognition of individual outstanding work performed in the different Intl. Craftsmen's Districts were announced at the St. Louis Convention. The Outstanding District Craftsmen and their District are as follows:

1. Ernest W. Hall, Southbridge (Mass.) Worcester County Club.
2. None reported.
3. John Watson, Ottawa, Ontario (Can.) Club.
4. Ray Miller, Philadelphia (Pa.) Club.
5. Arthur E. Ormsbee, Grand Rapids (Mich.) Club.
6. Ira D. Pilliard, Milwaukee (Wis.) Milwaukee-Racine Club.
7. Waring Sherwood, Memphis (Tenn.) Club.
8. William J. Scott, Omaha (Neb.) Club.
9. None reported.
10. Mike Hynes, Seattle (Wash.) Club.
11. Tom Hislop, San Francisco (Calif.) Club.
12. Lee Farmer, Los Angeles (Calif.) Club.
13. None reported.
14. None reported.

Equipment & Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT *Engineer*, 1276 West Third St., Cleveland 13, Ohio.

The Sta-Hi Story

DISCUSSIONS about Sta-Hi Corporation, its products and its service have been published in a 16 page booklet appropriately labeled *The Sta-Hi Story*. Of interest to stereotypers are the pages devoted to descriptions of the Sta-Hi Master Former, Master Router, Master Trimmer and Premier Rotary Shaver. Each includes illustrations of the respective machine, its weights, dimensions and floor plan drawings. Similar information and details are also listed for the Sta-Hi Power Lift Form File for composing rooms.

In addition, the company's Finaltrim Curved Mat Shears, Even-Temp Mat Dryer and Vacuum Flat Casting Box are described. Printed by offset in striking fire red, yellow and black, the booklet measures 10¾ in. by 8¼ in. Impressive are the list of testimonials from newspapers in the United States concerning Sta-Hi equipment. Views of the assembling of Sta-Hi machines taken in the company's plant in Whittier, Calif., are also shown. If a copy of this booklet is desired, please mention PEE No. 414 in your request.

Stops Rust on Paper Cutters

A LIQUID known as Sealspray, developed by the Monogram Company, is used for spraying on the beds of paper cutting machines to prevent rust. Designed for use by printers, binders and paper manufacturers, sponsor states it may also be used on the surfaces of steel banks, galleys, imposing tables and saw trimmers. It is claimed that after spraying a surface with Sealspray and wiping with a clean rag, dirt and grease are removed leaving a waxy rust-proof surface. The waxy surface will not pick up lint and dust, according to the Monogram firm, and facilitates the movement of heavy lifts of paper across the paper cutter table. It is also claimed that Sealspray is effective in preventing rusting during humid weather. If more information is desired, please mention PEE No. 411 in your request.

Mat Pre-shrinker

TWO page bulletin is available respecting the Infrared Pre-shrinker for reducing area of molded stereotype mats. Printed in red and black. Bulletin is illustrated. Sponsored by Pacific Printers Supply Co. When requesting a copy of this bulletin, please mention PEE No. 407.

Mat Backing and Storage Table

A MAT backing-up table for the storage and backing of stereotype mats, has been reported by American Publishers Supply, Inc. The table has eight compartments, each designed to hold eight cellophane wrapped boxes of Superior (non-perforated) or Vent-A-Flex (perforated) packing felt. Each compartment may be used for a different gauge and width of packing felt. Two compartments are on each of the table's four sides and moisteners have been installed at each corner of the table. The cork cushion top of the table measures 24 in. by 24 in. It is also equipped with a storage space inside for accommodating up to 600 sheets of packing felt. Overall dimensions of the table is 34 in. by 34 in. by 34 in. Working height is 34 in. When requesting further details, please mention PEE No. 412.

Automatic Dehumidifier Control —Walton Laboratories has announced an automatic control for installation on the Walton Aqua-Sorber Dehumidifier which is activated by moisture content of the atmosphere. The control device (shown here) operates the dehumidifier only when necessary which depends upon the moisture content of the atmosphere in the area where it is installed. The control includes a standard cord and plug for connecting into both power source and dehumidifier. Details of the Aqua-Sorber Dehumidifier appeared in the August 1952 issue of *Printing Equipment Engineer*. If more information is desired, please mention PEE No. 406 in your request.

Automatic Sheet Collator

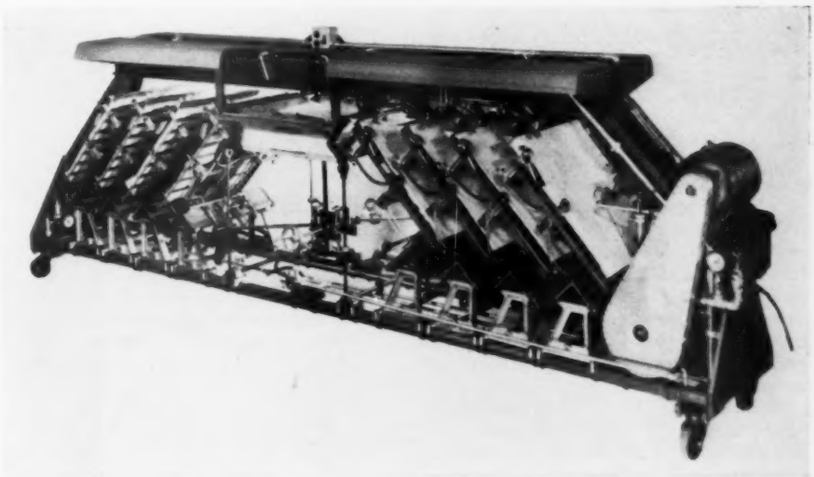
THE Curry Collator is designed for automatically collating sheets from 8½ in. by 11 in. up to 17 in. by 22 in. in size, at speeds of up to 10,000 sheets per hr., according to the J. Curry Mendes Corp. The machine is mounted on casters enabling it to be moved from one location to another.

In operation, the sheets are picked up four at a time by means of vacuum suction cups and moved forward to the senter of the machine. Here they are deposited onto the delivery table. A complete cycle of the collator constitutes four sheets from the left of the delivery table and four from the right.

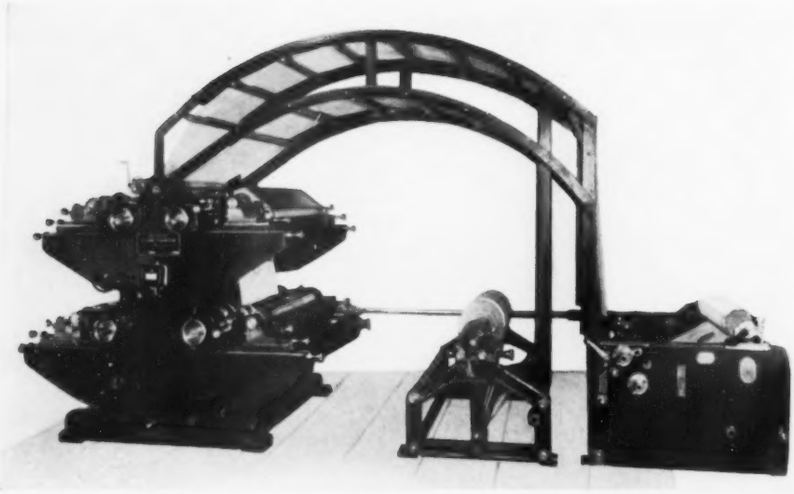
It was stated that a center pile delivery design was selected to enable operating the machine by one person and to afford the operator control of both the machine and work. Optional equipment on the Curry unit is a set-ejecting conveyor in place of the pile delivery.

The feeding stations of the collator are contained in eight drawer-type racks, four on each side of the delivery. They are loaded by sliding out each individual rack from its normal feeding position. Feeding level is maintained by means of a sensing device and ratchet mechanism.

Sponsor states it is possible to use up to six Curry Collators in a gang-up arrangement over a common conveyor for gathering up to 48 sheets simultaneously in one set. When requesting additional details, please mention PEE No. 416.



The caster mounted Curry Collator for automatically gathering sheets 8½ in. by 11 in. up to 17 in. by 22 in. Rated speed of the machine is up to 10,000 sheets per hr., reports the J. Curry Mendes Corp.



View of Wolverine Paper Converting Machinery Corp.'s Wolverine Hydro-Printer (Model X120), for printing by the aniline process in multi-color upon any plastic film (particularly polyethylene), acetate, Cellophane and foil. Built in widths from 26 in. to 80 in. May be obtained to print from one to five colors.

Wolverine Hydro-Printer Press

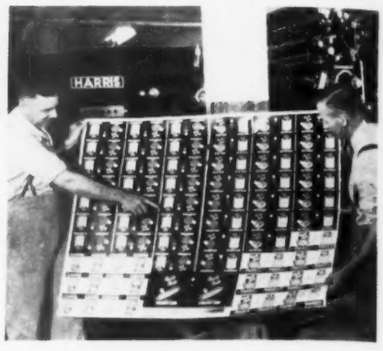
WOLVERINE Press Converting Machinery Corp. is sponsoring the Wolverine Hydro-Printers (Model X120) which is a hydraulic aniline press for multi-color printing of any plastic film, acetate material, Cellophane and foil. The press will handle flat film 0.001 in. to 0.010 in. thick, flat tubing and gussetting. Manufacturer mentions some of the features as follows: (0) Instantly hydraulic on-and-off impression controls, (2) Power impression, (3) Free-wheeling constantly rotating ink rollers when press is stopped, (4) Dynamically and statically balanced rollers and cylinders, (5) Self-aligning ball bearings.

Capacity dimensions are as follows: Up to 40 in. repeat, built in widths from 26 in. to 80 in., repeats up to 60 in. available, from 1 to 5 colors.

Other features are as follows: Top feed roller; overdrive structure provides approx. 20 ft. drying space from last color to tension control, running circumferential and side register control, impression cylinders are positioned in total hemispherical circle driven by a single bull gear to assure smooth wrap without pulling or stretching material, full flow circulating ink pumps, mechanical back-tension control, cooling rolls built in single unit, sensitive automatic rewind unit, complete single-unit spiral bevel gear drive unit, compact drying system, continuous web control at any given speed for color register work. If further information is desired, please mention PEE No. 405 in your request.

Cellophane Wrapped Gummed Packing Felt

THE American Publishers Supply, Inc., has announced a new method in the handling of its Superior and Vent-A-Flex gummed packing felt for the backing of stereotype dry mats. The gummed packing is shipped in boxes each containing five sheets. The box is cellophane wrapped, heat sealed and marked as to contents. The firm states that the cellophane wrapper prevents the gummed packing felt from sticking together in damp and humid weather, and keeps the packing clean and moisture free. More details may be obtained by addressing your request to *Printing Equipment Engineer* and mentioning PEE No. 413.



Vancouver Installation—The Harris two-color 42 in. by 58 in. offset press shown above was recently installed by Smith Lithograph Co., Ltd., Vancouver, B. C., Can. According to Mark Collins, President and Manager of the firm, the press will be used for printing multi-colored labels, cartons, brochures, catalogs, greeting cards and calendars. Pictured examining a press sheet from the initial run are from, left to right, Charles Tosh, Pressroom Fm., Smith Litho, and Edward Surgeant, Vancouver Service Representative, Harris-Seybold (Canada) Ltd.

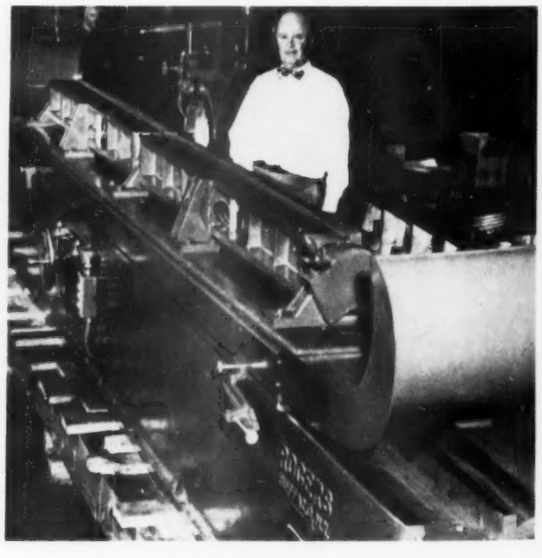
12 T. Knife Grinder

THE completion of a 12 T. knife grinder of the 220 Series for the Government's atomic energy program, has been reported by Samuel C. Rogers and Co. According to the sponsor, the new type grinder is available to industry for maintenance or production grinding of shear blades, paper, veneer, chipper and other heavy duty grinding. Equipped with a hydraulic fluid motor drive, it can also be used for flat face, bevel and edge grinding.

The machine weighs 12 T. and its work table measures 184 in. A magnetic chuck is provided for work loading and unloading. The company claims the fluid drive moves the work past the grinding head at speeds up to 100 f.p.m. and can gain this speed within 1 ft. of starting from a dead stop.

According to A. F. Moul, Executive Vice Pres. of the Rogers company and designer of the grinder, the machine can grind to a 0.0015 in. tolerance. The grinding wheel is of the segmental type and is driven by a 25 h.p. heavy duty, ball bearing motor. A heavy duty coolant system is attached for proper cooling of the work and newly designed control switches are used.

For further information concerning this grinder, please mention PEE No. 415 in your request.



This 12 T. knife and face grinder with hydraulic fluid motor drive and a 184 in. magnetic chuck was built by Samuel C. Rogers and Co. for use in the government's atomic energy program. Its designer, Arthur F. Moul, Vice Pres. of the Rogers firm, is shown with the machine.

Tingulok Method of Fastening and Holding Blankets on Rotary Press Impression Cylinders

This pictorial presentation is explanatory of the procedure for applying for the first time Tingulok Blankets on rotary printing press impression cylinders.

1.—In this picture are shown Tingulok lead flap, Tingulok tail flap, two reel plates (removed from the type of reel on which the plates are fastened by screws), tube of Permatex gasket cement, a rule and a blanket punch. The top plates of the two blanket reels have been removed and the plates with original canvas flaps have been taken out of the cylinder through the blanket opening. A line is drawn on the Tingulok flaps 8 in. back from the lead row of lacing. The reel plate is laid on the line and the screw holes marked on the canvas. Holes are then punched with a blanket punch and gasket cement is spread on the underside of the reel plate. Plate is then applied to the flap with flap and plate holes corresponding. Let plate and flap rest for 10 min. Mark reel plates in some way to insure they will be replaced in the cylinder in like position before removal. Allow $\frac{1}{4}$ in. to $\frac{1}{2}$ in. over edge of the flap for the center ring when replacing the plate.

2.—In this view is illustrated the manner in which the blanket lacing and the lead flap lacing match up. The row of lacing set back 1 in. from the other two on the lead flap fastens the draw sheet. For the two-piece combination the middle row of lacing is not used.

3.—When applying the blanket to the cylinder, the lead flap is put in first. This is easier because you must work below the pins. The flap is placed on the flat surface of the reel. The screws are replaced to fasten the plate to the reel. The tail flap is applied in the same manner.

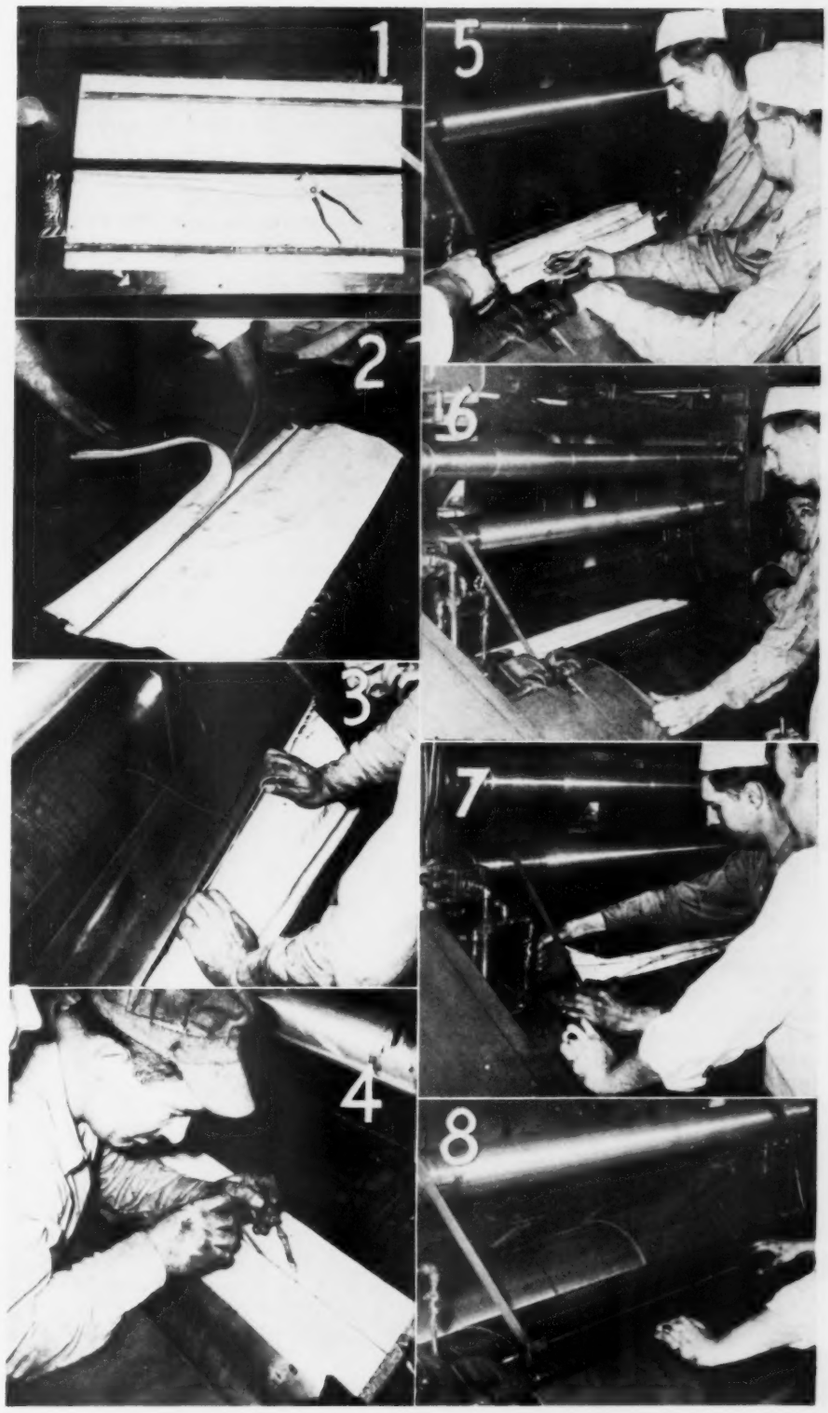
4.—Here the machinist is replacing the screws in the tail flap. To locate the holes in the reel, a rat-tail file or a prick punch can be used and will hold the plate in place while the first few screws are being turned up. It is suggested that a spring grip screwdriver can be used to good advantage in this work.

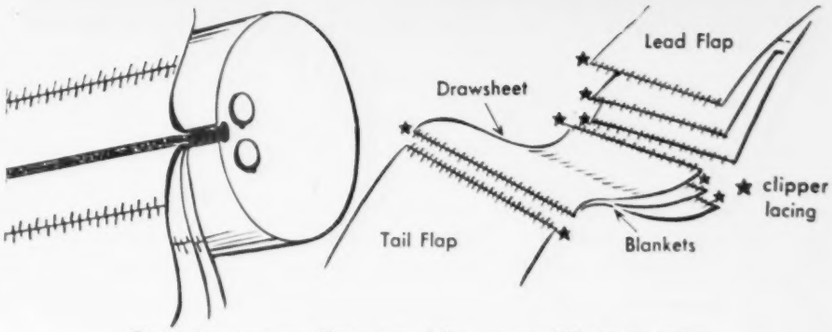
5.—The underblanket with flaps applied is placed on the impression cylinder, making sure that the blanket is positioned properly in relation to the center ring. The blanket lacing and the flap lacing at the bottom row are aligned and the lacing wire (shaft) is inserted from the center side of the blanket outwardly. It is not necessary to bend the wire.

6.—The drawsheet is positioned over the underblanket and is laced to the top row of lacing. The lead flap is then reeled in to a point where the reinforcing on the blankets is just below the cylinder surface. The tail flap should be reeled in so the lacing is below the opening before a move is made so there will be no danger of damaging the surface of the blanket.

7.—The press is moved enough to turn the cylinder one complete revolution to wrap the blankets around the cylinder. The tail of the top blanket is engaged with the tail flap lacing and is reeled in. All takeup should be made from the tail flap.

8.—The blankets have been applied. The takeup should be obtained with plates on the plate cylinder. It is not necessary to beat-in the blankets. Manufacturer states: "Run 20 papers, pull up; run 500 papers, pull up; run 3000 papers, pull up—and then run.





These diagrams are illustrative of the manner of fastening press impression cylinders by the Tingulok method.

Plastic Printing Plates

Technical treatise about the making of rubber, thermoplastic and thermosetting printing plates, together with discussion about aniline rotary printing presses

By AXEL LUNDBYE*

**Research, Kable Printing Co., Mount Morris, Ill.*

IV.

The plate is now ready for trimming, shaving and routing. Should we have to produce a plate from a matrix which has extremely deep and sharp cavities, it is good policy to dust the matrix after the application of Aquadag with a very fine powder of the same material used to mold the plate. So far, the Bakelite Company does not sell this fine powder, but enough can be obtained by sifting the granulate before placing it in the conditioning oven.

Another method of producing a Vinylite plastic printing plate, if an exceptional toughness is required on the plate, is to use a Vinylite powder which is clear and finely ground. The Bakelite trade name for this is Vyns. When this powder is compressed through the preheating, molding and chilling cycles, it becomes transparent. When using Vyns for producing the printing plate face, the backup of the plate will be made of Vinylite sheet and not of the granulate material. It can be purchased in standard sizes 16 in. by 37 in. and 1/8 in. thick. It can be obtained from most supply houses, and from the Bakelite Corporation.

Both of the above materials are of the thermoplastic family, and are softened under heat and when chilled down again, will become hard and tough.

During the molding cycle, the two materials, *i.e.*, white powder and the black Vinylite sheet, adhere together. The molded plate will appear black since the transparent face exposes the black underface of the plate. This is an important factor in this type of printing plate because imperfections will show up very readily, and imperfect plates can be made over before they break down under actual printing conditions.

The molding procedure is a little different than with the Vinylite. For this type of molding the upper and lower platens should be as close to 305 deg. as practical. The matrix should be thoroughly inspected for imperfections such as surface checks, cracks and undercuts. To eliminate locking of the molded plate to the matrix (which is more apt to happen with this type of material than with the granular Vinylite), it is more important here to have a good coating of Aquadag water solution. However, it must not be placed in too thick a film, especially in the high lights because the fill-in might impair the printing quality of the plate.

Assuming we want to finish a plate of 0.152 in. thickness, allow approx. 0.015 in. to 0.018 in. for finishing. Place the matrix on the removable apron and dust on the face approx. 1/8 in. to 3/16 in. of Vyns. Increase thickness in the four corners approx. 3/8 in. to 1/2 in. thick. Cut two sheets of the black Vinylite sheets so that they extend 1/2 in. over the printing area on both sides. Place the bearers not less than 2 in. away from the assembly in the direction from front to back of the press, and then the 1/8 in. insulating sheet is placed on top, extending over the bearers. Push the apron in, again being sure that the assembly will be as close as possible to the center of the ram. Now the press can be closed slowly at a low pressure, 75 lbs. to 225 lbs. to the sq. in. This preheating time will take approx. 3 min., and in that time the heat will penetrate the complete assembly. In that manner the heat will make the material plastic and facilitate the flow when the press is finally closed to 1200 lbs. per sq. in. of printing area. However, these pressures should never be exceeded, because by going beyond the matrix will be injured.

When the press has been closed and the bearers are tight, it can be opened immediately and the whole assembly, including the insulating board, should be moved to the chilling press. It will take approx. 1 1/2 in. to 2 1/2 min. to chill the plate, depending on the temperature in the press. Then the plate can be removed in the same manner as required for the granular material. But it may be a little more difficult to remove the matrix from the plate.

The explanation explained above is the way the majority of the molders are producing their thermoplastic plates. Some fine work is being done. But all the molding so far has been done by what is known as the hot molding process. About a year ago, the Williamson Company developed a material called Cold Molding. We understand some platemaking companies think by using the Cold Molding process, a better result is obtained.

By going to Cold Molding, the conditioning oven can be eliminated, but to do that a change in material has to be made. This is the process the Williamson Company came out with approximately a year ago. Some successful molding has been done with these materials.

We will describe briefly the cold molding cycle. The material is weighed out or distributed by a loading machine. This machine can be seen in Fig. 17. The hopper on top contains the unconditioned vinyl powder. The matrix is placed on a screen which is the floor of the machine. The gate at the bottom of the hopper is then opened, and sufficient material is let out. If too much is drawn out, not much harm is done. Next the leveling bar at the back of the machine is drawn over the material on top of the matrix. The bar then leaves just enough vinyl powder to give the required thickness for the molded plate. The bar rides on adjustable bearers. Should there be any excess material, it is pushed off the matrix and falls through the screen, and is deposited in a barrel below the loader (not shown in Fig. 17).

When the matrix is loaded, it is placed on a preheated press, the so-called gab press, and here we can either use 350 deg.

Fig. 17.—Loading Machine by Williamson & Co.

Fig. 18.—Thermoplastic Plate Curving Unit by Lake Erie Engineering Corp., with self contained electric heating unit. It is operated by air. The top and bottom dies are interchangeable for various cylinder diameters.

F. (then the preheating time will be only $1\frac{1}{2}$ min.), or 300 deg. F. (the cycle will be approx. 2 min.). After the preheating time, the whole assembly is immediately moved to a chilling press—that is a press with a cooled platen. The cycle here depends on the coolness of the platen, but it should be from 2 min. to $2\frac{1}{2}$ min. if 60 deg. F. water is used for the cooling medium. After the preheated material and the matrix are placed on the platen, the platen is closed as quickly as possible. A pressure of about 2000 p.s.i. is necessary. Apparently, at this pressure, this type of material does not injure the matrix.

After the pre-determined time, the press is opened and the plate is separated in the usual manner from the matrix. But we understand that the separation of the cold molding is much easier than with the standard procedure, and besides, the plate will stay flatter when finished. But here, as with any other duplicate printing plate, great care should be exercised not to spoil the good work produced by the precision machinery which is used to make these plates. It can't be stressed enough that the matrix must be right if a good printing plate is required, equipment must be exacting, and temperature and pressure must be held as recommended.

The plate should never be exposed to too much molding temperature, and never exceed the maximum pressure given. In both cases, the material will flow too rapidly and the plate will not be filled out properly. Insufficient temperature will show up in the plate when some areas of the plate appear cloudy.

One of the troubles which occur occasionally with thermoplastic printing plates is that some plates, even though they prove up perfectly, might after a couple hundred impressions develop small indentations and produce unsatisfactory printing results. This condition can usually be laid to too high temperature during the molding cycle, or the material might not have been conditioned properly. However, had the pressure and temperature been kept, and the conditioning cycle followed, these troubles would never have occurred. Therefore, check the temperature on the platen, and keep the material at least $1\frac{1}{2}$ hr. in the oven before attempting to mold for hot molding materials. Should plates have a tendency to warp, either convex or concave, after removing from the matrix, this condition is due to uneven chilling. Or it might be that the insulation sheets are too heavy, and therefore too good an insulator. Try a thinner sheet, or it might even be necessary to remove the sheet completely before placing in the chilling press. Also check for even temperature on the platen in the chilling press. Missing letters, lines, or parts of letters indicate insufficient conditions in the oven, or the time has been cut too short.

Molded Vinylite plates can be finished on standard electrotype equipment. As the material is very tough, it will dull standard cutting tools quickly, especially the finishing knives in the Clayborn Shaver. It is recommended that any cutting tools used on plastic plates, *i.e.*, shaving tools and router bits, all be carbide tipped. This type of tool will last many times longer on plastic plates.

It sometimes happens when sawing a Vinylite plate that it will chip on the edges. This can be overcome by heating the edges to about 100 deg. F.

Curving of the plate heretofore has been done after the plate was finished, and we think that is the proper way of curving, because in that case the curving will actually act as a hot bumping operation, simultaneous with the curving.

For the curving operation a set of saddles, one male and one female, is required, preferably water cooled. The female saddle should be slightly larger than is required for the perfect diameter of the printing plate, because a rubber sheet will have to be placed on the plate to protect its printing quality. The male saddle should be slightly smaller in diameter because the plastic plates have a tendency to open up slightly after curving. After an operator has curved several plates, he might find it necessary to put paper in either the male or female saddle to get the curvature he wants, but that can only be found by experimenting.

The most common or preferable way to soften the Vinylite plate is to place it in a hot solution. Water is all right, in temperature of 170 deg. F. for from 2 min. to 3 min. Some operators prefer using a hot plate, placing the printing plate to be curved face up on the hot plate and leaving it for the same time described above. But that is a dangerous operation because 170 deg. F. is about the maximum temperature which the plates should be exposed to before plastic flow takes place. If a hot plate is used, great care should be taken that the plate has an even temperature over all. The benefit of using a hot plate is that the printing plate will become softer on the back than on the face, if the back of the plate is against the hot plate. Consequently the hot plate will not distort the face of the plate as much as if the plate had the same temperature throughout. Thermoplastic plate curving units can also be used. (See Figs. 18 and 19.)

After the plate has been heated, speed is essential, and the plate should be placed on the saddle as quickly as possi-

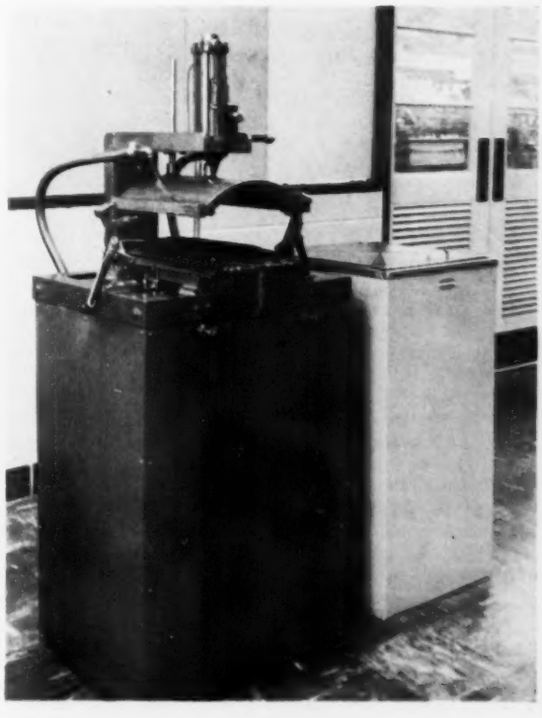


Fig. 19. — Thermoplastic Plate Curving Unit by Monomelt Company. This equipment includes a curving unit, a hot water tank unit and a bumping unit.

ble. A thin sheet of rubber should be placed in the female dye, with the face of the plate against this sheet of rubber to protect the printing surface of the plate while curving. It should be left in this condition until the plate becomes cool again and properly hardened.

Vinylite printing plates and most plastic material will soften when in contact with several solvents. For that reason, acetone, toluene, xylol, and benzol should never be used, nor should any type wash containing any trace of them because the solvent will destroy the face of the plate. Solvents that can be used on this plate are kerosene, gasoline, naphtha, benzine and carbon tetrachchloride. However, all solvents should be used sparingly.

The finished plate can now be fastened on the printing press in the same manner as standard electrotype and stereotype printing plates.

The combined material cost of matrix and plate matrices will be just slightly higher than 1c per sq. in., and just one-half that for duplicate printing plates.

Some questions which might occur:

1. How long will they run?
   (A) On flat bed, approx. 300,000 imp.
   (B) On rotary presses, approx. 150,000 imp.
2. How will they reproduce halftones?
   (A) As good or better than a good electrotype.
3. What is the comparison in weight?
   (A) The specific gravity of lead is approximately 11.3, and of plastic approx. 1.3. Therefore, it is less than $\frac{1}{8}$ the weight.
4. Are the plates brittle?
   (A) On the contrary, they are extremely tough.
5. Will the heat and pressure used during molding damage the type forms?
   (A) No, the heat and pressure used are below the safe limit of the metals in type form and halftones.
6. How can plates be straightened?
   (A) Use the leveling unit shown in Fig. 16, but if they are made correctly, the majority will be level.
7. Can four color process work be printed from these plates?
   (A) With the present material, it is difficult to hold register. However, if the four matrices are molded simultaneously, and in the same way, then it is possible to produce an acceptable job. But should one of the color plates have to be replaced, then one can look for trouble.
8. How are they shipped?
   (A) Due to being one-eighth the weight of metal plates, only light boxes are necessary, and the shipping cost is much less.
9. Do they change shape in storage?
   (A) No, if they are kept in a cool place.
10. Can they be mounted to wood and pattern bases?
    (A) Yes, easily.
11. What about the press batter?
    (A) It is much more difficult to batter them, but should it happen since we have the matrix in less than $\frac{1}{2}$ hr., we can have a duplicate plate.
12. Can the plates be repaired and corrected?
    (A) Type corrections are made just like in electrotypes. A better and more substantial job can be done in partial lines or multiple lines.

Then with all these good points, what are the disadvantages? We don't know of any except the one mentioned here.

It must be remembered that the Graphic Arts industry is pretty slow in making major changes except by positive proof over a long period of time. We think it is about time that the plastic plates start to take hold. With newer material coming on the market simultaneously, the industry should get started.

Thermosetting Plastic Printing Plates

Here is a new tool for the printer, somewhat different than heretofore used for printing—the thermosetting plate. The name indicates that this material cures and sets with heat. It is considered impossible to change the form after the curing cycle is completed. This group of materials is manifold, and most of them have been tried both for matrices and printing plates. A few of the most important are:

Alkyds
Aniline Formaldehyde
Melamine Formaldehyde
Phenol Formaldehyde
Phenold Hy-Car
Phenol Furfural
Polyester
Urea Formaldehyde

Alkyds: Is one of the newcomers to this field, but is in what we consider the high cost materials. Today it sells for approx. 41c per lb. in 1000 lb. lots. It is most used in the electrical and mechanical field. It has good physical properties, but up to the present time has not been found to be as suitable as other materials for printing plates. It is a little more difficult to control than the phenol.

Aniline Formaldehyde: This is one of the oldest in the family, and is produced by condensation of formaldehyde and aniline. It has good characteristics for printing plates. It is absolutely insoluble in any commercial solvent known, as in alkalies and alcohol. However, some of the acids will affect it. Some good results in using this material for printing plates are known. But it is more expensive than other material that will give as good or better reproduction.

Malamine Formaldehyde: Also a newcomer in the field. Good results have been obtained, and one of the good features of this material is that it mixes readily with the different kind of fillers used, but again the price range is fairly high. It is from 43c to 65c per lb. in 1000 lb. lots.

Phenol Furfural: (Trade name Durite) This material has more or less the same characteristics and physical properties as in Phenol Formaldehyde. The material of the Phenol Furfurals is produced from farm waste such as corn cobs and grain hulls. We have tried some of them out for printing plates and some excellent results have been obtained.

Polyester: (Thermosetting) This material is usually purchased in liquid form and then cast into thin sheets, which become transparent after curing. They are usually used in combination with reinforcing such as cloth, glass, etc. They mold and cure at very low pressure. They have been tried for printing plates, but the process is slow, and besides that, the price is more than double that of Phenol Formaldehyde.

Urea Formaldehyde: This material is manufactured by combining Formaldehyde and Urea. By condensing these materials a resin is produced. Then by combining these resins with wood fillers, a fine molding material for printing plates is produced. The characteristics and the physical properties are similar to that of Phenol Formaldehyde. The price range for 1000 pound lots is from 20c to 45c per lb. This material has been used with some success in molding printing plates.

Phenol Formaldehyde: This part of the family of the thermosetting materials is the one far more suitable for molding and curing printing plates. It is one of the earliest thermosetting materials developed. Most of the printing plates produced in the thermosetting family come under this heading.

The Baekeland Story

Therefore a little story about how it was first produced by Dr. Leo H. Baekeland, a Belgian professor in chemistry, who at 24 achieved a full professorship. Shortly thereafter he invented and developed the Velox photographic paper which he sold to George Eastman of the Eastman Kodak Co. The story has it that the price obtained was in excess of $1 million. After that, he settled in the United States, and started to experiment with Phenol (carbolic acid) and Formaldehyde in the hope that he might develop a synthetic shellac. He found that when he mixed Phenol and Formaldehyde, anything might happen, and one of the things that happened one day was the formation of Phenolic resinoid. Baekeland was certainly not the first of the great chemists to try to mix Phenol Formaldehyde, because as far back as 1871, Baeyer made some interesting experiments, very similar to Dr. Baekeland's. But it took Baekeland, with his tenacity to really attain his controlled reaction and to carry the work through to completion and exploit the commercial possibilities. In 1909, a patent was issued to him. He started to manufacture some of these materials in his laboratories in Yonkers, N. Y., in a small still. In 1910 he formed the General Bakelite Co. Dr. Baekeland did not know at that time what an impact his invention would have on American industry. Today we know that he laid the foundation for an industrial revolution.

In 1916, Dr. Baekeland was awarded the Sir William Perkins medal for his

TABLE VI. Average Properties of Molded Phenolics and Rubber-Phenolics

PROPERTIES	Woodflour-Filled Type		Asbestos Fiber-Filled Type		Cotton Flock-Filled Type		Fabric-Filled Type	
	Conventional Phenolic	Rubber Phenolic	Conventional Phenolic	Rubber Phenolic	Conventional Phenolic	Rubber Phenolic	Conventional Phenolic	Rubber Phenolic
Izod impact, ft-lb/in. of notch	0.36	0.60	0.34	0.40	0.66	1.00	1.30	2.30
Flexural Strength, psi	10,000	7000	9500	7000	10,000	8000	10,000	7000
Modulus in Flexure, psi	$1x10^6$	$0.25x10^6$	$1.0x10^6$	$0.5x10^6$	$1.0x10^6$	$0.45x10^6$	$1.0x10^6$	$0.35x10^6$
Tensile Strength, psi	7,000	4500	5500	4000	6000	4500	5500	3500
Compressive Strength, psi	25,000	16,000	20,000	16,000	25,000	15,000	25,000	15,000
Specific Gravity	1.37	1.31	1.71	1.63	1.37	1.33	1.38	1.32
Water Absorption, per cent, 48 hr	1.0	2.5	0.1	0.40	0.8	2.5	1.0	2.1
Shrinkage, mils/in	5	9	3.0	6.5	3.5	4.5	2.5	4.5
Hardness, Rockwell "M" scale	110	50	108	50	95	55	107	60
Heat Distortion, C	145	125	150	135	160	125	150	115
Heat Resistance, C., Continuous	100	100	120	125	100	100	100	100
Coefficient of Thermal Expansion, in./C	$3.0x10^{-5}$	$1.5x10^{-5}$	$3.5x10^{-5}$	$4.06x10^{-5}$	$2.0x10^{-5}$	$2.10x10^{-5}$	$1.9x10^{-5}$	$3.0x10^{-5}$
Thermal Conductivity, cal/sec/sq.cm./C./cm	$5x10^{-4}$	$5x10^{-4}$	$13.8x10^{-4}$	$1.5x10^{-3}$	$7.0x10^{-4}$	$5x10^{-4}$	$6.7x10^{-4}$	$2.16x10^{-4}$

Courtesy of Dr. Wyman Goss, Chemical Department, General Electric Co.; reprinted from *Product Engineer*, for January, 1951.

work on phenolic resins. There were lots of companies who started then to manufacture the phenolic resins, among them the Condensite Company of America, the Redmanol Company, and the General Bakelite Co. which merged at a later date to what was known then as the Bakelite Corporation. A co-worker of Dr. Baekeland, Dr. Swan, known as "Skipper" by his co-workers and friends, was the first man to produce a thermosetting plastic printing plate.

The Molded Sandwich

In 1935, the author became interested in phenolic resins to substitute some of the metal in mechanical parts of the machines he was designing then. Later in 1937, after he became Research Director for Crowell-Collier Publications, he took up the question with Dr. Baekeland and Dr. Swan to use their Bakelite material for substituting the standard electrotype. Some work was done by the Bakelite Corporation. But soon it was determined that the molded plates would not lay as flat as required for good printing plates. We were told that it would be practically impossible to produce curved thermosetting plastic printing plates. These statements were undoubtedly correct at the time, but not satisfactory to the writer. We continued working with the material at hand, and found by making sandwiches of different kinds of material and interlaying them with paper and/or cotton coated with phenol, we could make them either convex or concave to our liking, or we could make them lay flat. Then we were told they would not stay flat. We have in our laboratory, a molded sandwich made more than eight years ago. It is 18 in. by 18 in. and approx. $\frac{1}{4}$ in. thick. It has stayed flat since, and is still flat. This is a simple phenomenon to explain. If we produce a plate where the internal stress in the face is greater than the internal stress on the back of the plate, then it will curve upward. On the other hand, if we change the stress so that it will be greater on the back than in the face, it will curve downward. Now it becomes a simple question to solve. It is only necessary to equalize the stresses on the front and the back, and the plate will lay flat.

Phenol Production

A tremendous amount of work has been done in producing a better phenol from resins. There are several different methods of producing these resins. By combining:

Chlorine + Benzene = Monochlorobenzen + Caustic Soda = Phenol + a salt. But Chlorine is short and because of that expensive. Or combine:

Sulphuric Acid + Benzene = Benzene Sulforal + Caustic Soda = Phenol + Sodium Sulfite. But Sulfur is short.

So Hercules Powder Co. is starting to produce Phenol by combining: Benzene + Propylene = Cumene + Air = Cumene Hydropeoxide and then induce a catalvst = Phenol + Acetone.

At the present time, phenol molding compounds sell from 21c to 31c per lb. in 1000 lb. lots, and it is not known yet if the Hercules Powder Co. with its new process, will be able to lower the price.

Before closing the chapter on the material, we must not overlook a newcomer in the market produced by the Chemical Department of General Electric Co., Pittsfield, Mass., in combination with one of the major rubber companies. The material is known as Phenol Hy-car compound. It is reasonable to assume that these materials are a thermosetting resin of the phenolic family combined with finely divided synthetic rubber particles intermixed with the resin. The resin will not combine with natural rubber, and a synthetic rubber which is found to be the best for the purpose is produced by co-polymerization of Butadiene and Acrylomtrile. It is found that these synthetic materials are more compatible with the phenolic resins. When the Hy-car Phenols are molded, they will stand more abuse than the standard phenols. But more important, they have more flexibilities than the standard resins. However, they have a larger shrinkage, nearly twice that of the standard phenols and they are high in cost. But we think that with these disadvantages, the advantages obtained will equalize this disadvantage. The ease in molding them, the ease in finishing, the added flexibility and the ability to stand more abuse outweigh the disadvantages.

The phenol resins are never used in pure form, some kind of fillers are mixed to give them more body, better molding qualities, and more important, much cheaper for the user. The phenol resins used throughout the experiment and the running of thermosetting plastic printing plates have always been of the wood filler type.

After this short general description of the phenolic resins, we would like to give some of the properties and the physicals of the Phenol Hy-car and the straight phenol. (See Table VI.)

(*To Be Concluded*)

Receive Investments

Six printing and lithographing firms obtained more than $6 million and two of printing manufacturers ink $2 million from life insurance companies and other long-term investing institutions in 1951, according to the *1952 Yearbook of Private Placement Financing*, published recently by E. V. Hale & Co., Chicago. Largest loan in the printing and lithographing group went to Consolidated Lithographing Co. Others included W. F. Hall Printing Co., Cuneo Press, Inc., Printers Sales Corp., Book Production Industries, Reynolds & Reynolds, California Ink Co., and Sinclair & Valentine.

New home of the Royal Oak (Mich.) *Daily Tribune* presents a marked contrast from the small frame building occupied by the paper in 1919. The early structure was so cramped that office callers had to step outside when some of the equipment used by the weekly *Tribune* was in operation. The new facilities were designed by Morton L. Pereira and Associates, Chicago.

Royal Oak (Mich.) *Tribune* in New Plant

FROM initial plans formulated in 1948, the Royal Oak (Mich.) *Daily Tribune* has emerged to a modern, compact, efficiently operated daily newspaper serving the cities, villates and townships of South Oakland County. To mark the opening of its new two-story building which houses mechanical, editorial and business operations, the Michigan paper recently held an open house. At the same time, to acquaint the general public with its past, the production steps involved in issuing a daily and the staff, the *Tribune* printed and distributed a 16 page tabloid section. In contained numerous views of the mechanical departments and employees, and written for the reader to understand the complexity of newspaper printing.

"Can't Stand Still"

"We can't stand still," Floyd J. and Lynn S. Miller, brothers and publishers of the *Tribune* since 1919, agreed in late 1948. With this brief, undramatic decision, the plans for the new installation were set in motion. Morton L. Pereira and Associates, Chicago newspaper architects and engineers, were consulted. It was their recommendation to construct a new building.

The *Daily Tribune* now ranks sixteenth in size among all newspapers in Michigan. Its circulation of more than 25 thousand is said to be read by more than 100 thousand persons each day.

Key Personnel

In addition to the Miller brothers of whom Floyd is President and Lynn, Managing Editor, the management of the Royal Oak is also headed up by Philip F. Miller, Vice Pres. Executives of the mechanical staff are as follows: Keith LaFountaine, Mechanical Supt.; Franklin M. Dunn, Photoengraving Mgr.; Robert Roush, Stereotype Fm.; Ray Casey, Pressroom Fm.; and Alfred Fredette, Building Supt.

House Committee

The 80 full-time employees of the *Tribune's* family share the responsibility for many of the functions of the newspaper. In addition to the departmental organization, a House Committee sets the policy for the use of facilities for employees.

An immediate responsibility of the House Committee is the management of the lounge and operation of vending machines, the profits of which are used for employee activities and conveniences. Part of the decorations of the new building were the committee's ideas. Members are elected by employees of each department.

The *Tribune* also publishes its own monthly magazine called *Tribune Topics*. To keep interdepartmental relations functioning smoothly, all department heads confer once a month. Suggestions for improvements in the paper as well as in staff operations are discussed thoroughly. In its constant search for new ideas for

Scenes of the Mechanical Departments of the Royal Oak (Mich.) *Daily Tribune*

1.—View of the composing room where seven Linotype machines are in daily operation. These are augmented by two Ludlow machines and an Elrod Strip Caster. The proof press, saw and several cabinets may be seen in the foreground.

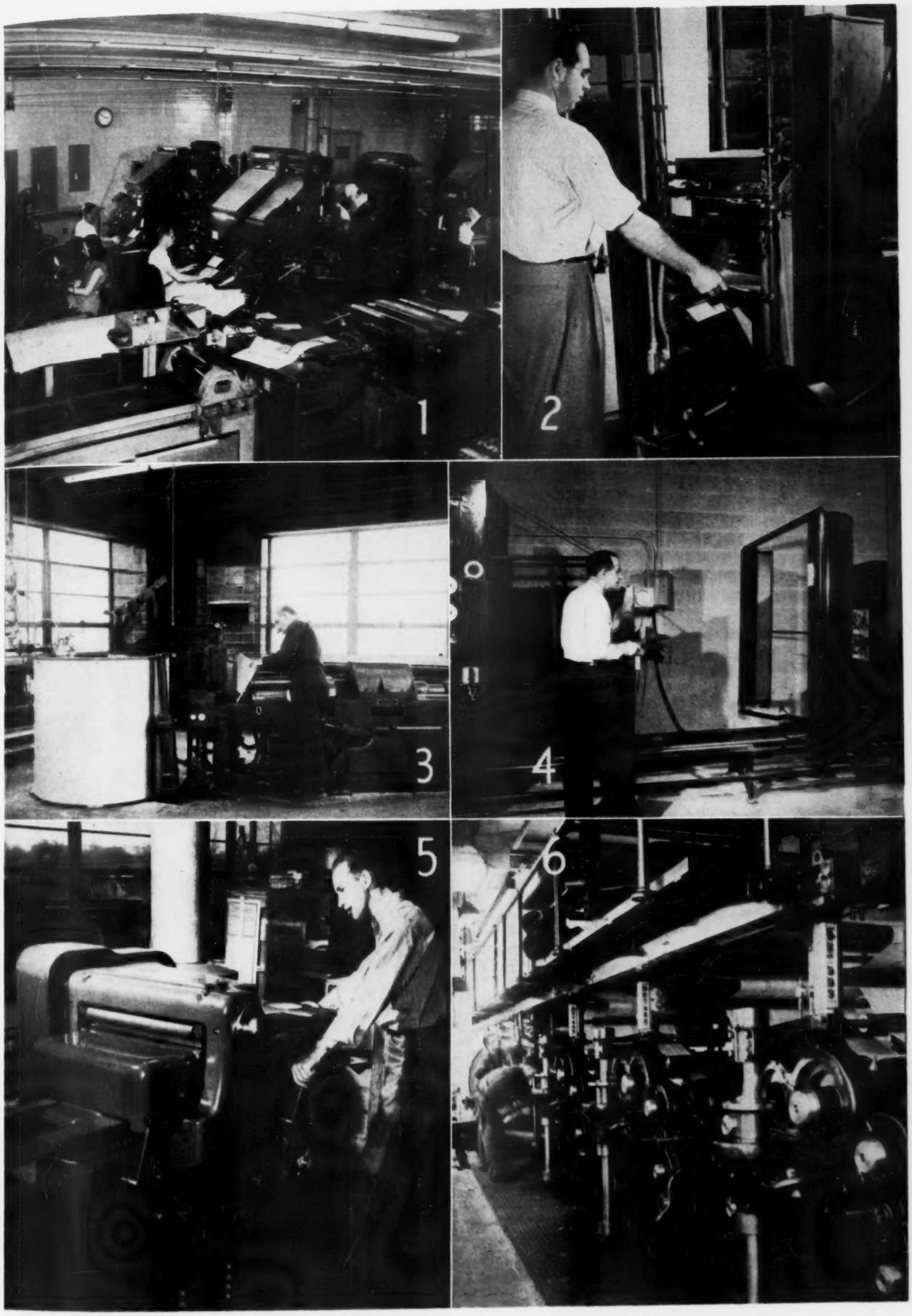
2.—The *Tribune's* Mechanical Supt., Keith LaFountaine, is shown removing copy for the composing room from the copy conveyor belt, newly installed at Royal Oak to facilitate movement of copy within the building. The system connects the composing room with editorial, display advertising and classified ad departments.

3.—Here, Stereotype Foreman Robert Roush removes a stereotype plate from the casting box of the Wood Pony Autoplate. This new equipment was installed to produce the semi-cylindrical plates necessary for the Goss newspaper press.

4.—The new camera installed in the *Daily Tribune's* photoengraving department is being operated here by Franklin M. Dunn, Photoengraving Mgr. It is estimated that approx. 7500 local pictures are used in a year on the paper. In addition, the engraving room also handles jobs for several other newspapers and magazines.

5.—The Premier Rotary Flat Plate Shaver installed in the Stereotype Dept. is shown being operated by Donald Biskner.

6.—The 48 page six unit Goss press has speeds up to 30,000 papers per hr. The 132 T press can also turn out a 96 page tabloid at the speed of 15,000 papers per hr. Alongside the reel room for the press located in the building's basement, is storage space for accommodating five carloads of newsprint.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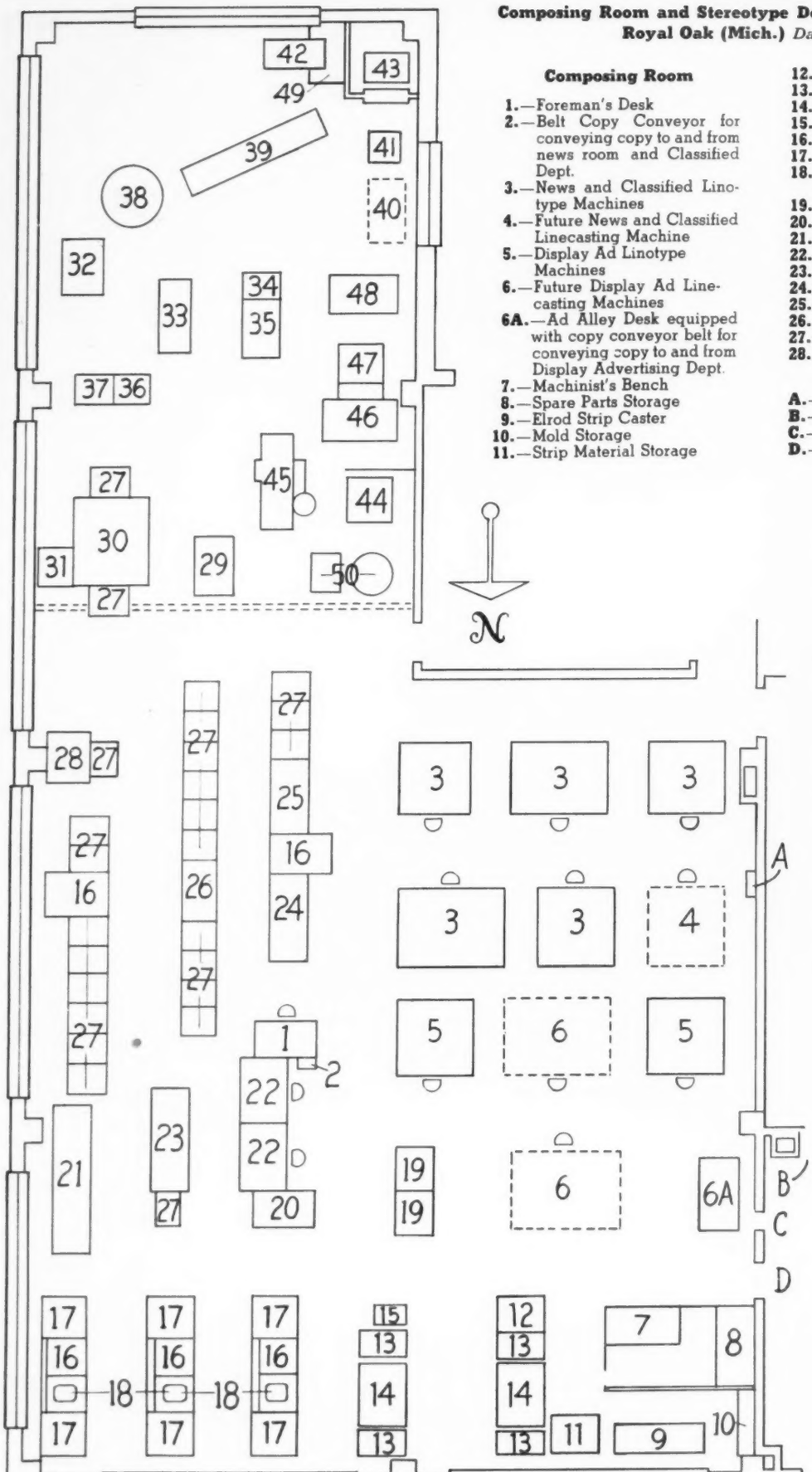


Composing Room and Stereotype Dept. Equipment Layout at Royal Oak (Mich.) *Daily Tribune*

Composing Room

1.—Foreman's Desk
2.—Belt Copy Conveyor for conveying copy to and from news room and Classified Dept.
3.—News and Classified Linotype Machines
4.—Future News and Classified Linecasting Machine
5.—Display Ad Linotype Machines
6.—Future Display Ad Linecasting Machines
6A.—Ad Alley Desk equipped with copy conveyor belt for conveying copy to and from Display Advertising Dept.
7.—Machinist's Bench
8.—Spare Parts Storage
9.—Elrod Strip Caster
10.—Mold Storage
11.—Strip Material Storage
12.—Page Strip Storage
13.—Ludlow Matrix Cabinets
14.—Ludlow Machines
15.—Slug Stripper
16.—Composing Room Saws
17.—Ad Cabinets
18.—Mitering Machines on top of Strip Storage Cabinets
19.—Cut and Signature Cabinets
20.—Ad Type Dump
21.—Ad Storage
22.—Proofreader's Desks
23.—Proof Press
24.—News Bank
25.—Proof Press
26.—News Bank
27.—Trucks
28.—Page Form Storage

A.—Power Panel
B.—Lavatory
C.—Pass Door
D.—File Room

Stereotype Dept.

29.—Cuts Table
30.—Mat Roller
31.—Stereotype Mats
32.—Sta-Hi Mat Former
33.—Mat Packing Table
34.—Flat Mat Scorcher
35.—Bench
36.—Mat Shear
37.—Table
38.—Stereo Curved Plate Metal Pot with Kemp Immersion Metal Melting equipment
39.—Pony Autoplate
40.—Future Curved Router
41.—Plate Finishing Block
42.—Curved Plate Router
43.—Plate Elevator
44.—Router
45.—Flat Plate Shaver
46.—Plate Trimmer
47.—Saw
48.—Flat Cast Table
49.—Elevated Kemp Carburetor
50.—Metal Remelting Pot

the paper, the management also sponsors a suggestion-reward program.

Not a Better Building

Although the objective of the Miller brothers was a better newspaper for the community, not a better building, the effort seems to have encompassed both. The layout in the new building is a fine study in compactness and uniformity which can be achieved in modern newspaper publishing.

First floor of the building accommodates the business, circulation, classified and managerial offices, as well as the photoengraving department and pressroom. On this same floor, printed papers are carried from the press by conveyor into the mailing room, and after bundling, by conveyor to a loading dock at the rear of the structure.

On the second floor, part of which is reproduced here, may be found the composing room, stereotyping department, photo studio, darkrooms, mat file room, display advertising department and editorial department. To facilitate movement of copy within the building, a copy conveyor belt is used for sending copy to the composing room from the editorial, display advertising and classified ad departments, and back again.

The basement houses the reel room, a large space for newsprint storage, a news ink tank, hydraulic elevator for newsprint, storage room for office supplies, telephone equipment, boiler room, lunch room and lounge, and men's and women's toilets.

Space Saved for Future

On the seven Linotype machines in the *Daily Tribune's* composing room, operators turn out nearly all the news copy that goes into the paper plus most of the smaller heads. These are augmented by two Ludlow machines which set the display type for ads and the larger heads. An Elrod strip caster furnishes the needed spacing material, rules and solid borders. The possibility of future growth was taken into consideration and space was saved for future news and display ad linecasting machines.

Can Print 96 Pages

The 48 page six unit Goss press used at the Royal Oak paper was purchased from the Chicago *Daily Tribune*. The 132 T. press can turn out a 96 page tabloid at the speed of 15,000 papers per hr. or a 48 page paper at the speed of 30,000 per hr. To feed the press, storage space for five carloads of newsprint was provided in the basement.

In addition to the press and three Linotype machines added in the past five years, the *Daily Tribune* has also installed new stereotype plate casting equipment, the copy conveyor system, a new photoengraving camera and other equipment.

Tension Control for Tubular Press

THE Escanaba (Mich.) *Daily Press* has developed a comparatively simple tension control device for its 20 page Tubular printing press to permit running two 17 in. rolls on one shaft (Fig. 1) thus conserving considerable 34 in. newsprint.

The device consists of a 2 ft. metal sleeve with a separate braking attachment. The standard brake on the shaft controls the tension of the paper roll the core of which is secured to the main shaft, and the brake on the sleeve controls the tension of the roll the core of which is attached to the sleeve.

Equipped with a 1/16 in. spacer, the attachment is so efficient that the two rolls appear to run as one normal 34 in. roll. With the use of the sleeve, it is possible to run three small rolls in a 14 page or 18 page edition or two in a 12 page edition.

In addition to the sleeve and brake, the device is equipped with a bushing fitting to the core, a lock, brake drum and a floating key into the sleeve.

With the use of the shaft brake and the sleeve brake, tension is maintained in the normal manner on each roll as the paper is fed into the press and the diameter of the rolls is reduced.

The Escanaba *Daily Press*' novel sleeve-type device for tension control from within, in contrast to many canvas belt band devices for control from the outside, has proved to be efficient, it is stated. Its almost daily use has resulted in a worthwhile saving of full-size newsprint supplies.

The Escanaba innovation was conceived by Rene J. Sabourin, Press Foreman, and developed in cooperation with the Vinette Iron Works of Escanaba. James G. Ward, jr., is General Mgr. of the Escanaba *Daily Press*.

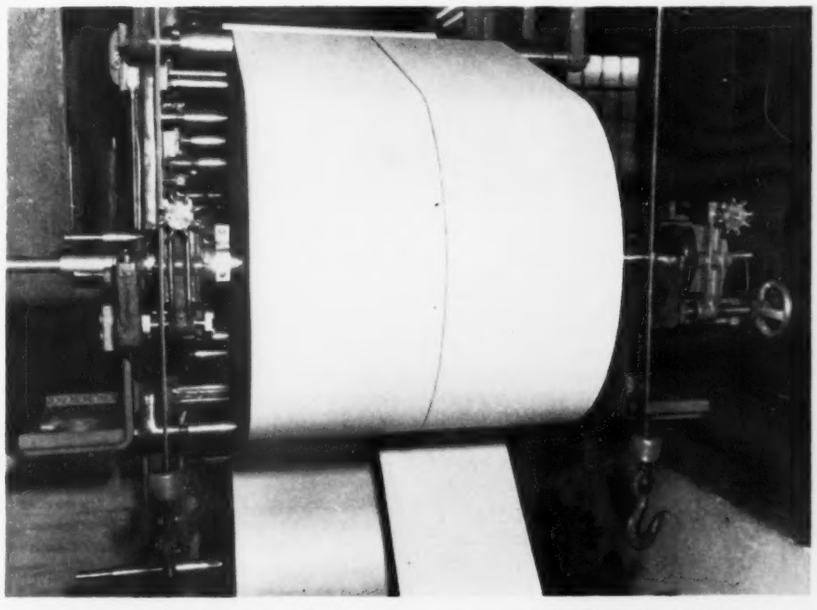


Fig. 1.—View of feeding end of Tubular Press in plant of the Escanaba (Mich.) *Daily Press*. Development of a roll shaft permits running two 17 in. rolls on the one shaft. This conserves considerable 34 in. width newsprint. With the device, the two rolls appear to run as one.

Fig. 2.—View of modified roll shaft in use in the Tubular Press at Excanaba (Mich.) *Daily Press*. The right side of the shaft is fitted with a sleeve. The standard brake on the left side of the shaft controls tension of the paper roll mounted on the main shaft portion. The brake on the sleeve (right side) controls the tension of the roll attached to the sleeve. A 1/8 in. spacing disk is mounted centrally of the shaft. In addition to the sleeve and brake there is a bushing fitting to the core, a lock, brake frum and a floating key between shaft and sleeve.

Kenneth J. Nolan (left) has been appointed Asst. District Mgr. of Harris-Seybold Co.'s Washington, D. C., district, according to Paul H. Schafer, District Mgr. Daniel O. Anderson (center) has returned to the H-S sales force it was announced by John M. Morehouse, Home Office District Mgr. Vincent R. Stafford (right) has been appointed Sales Representative for the firm in the New York area, according to T. M. Broadston, New York District Mgr. Nolan served previously as a representative in the New York area for Harris-Seybold. He will make his headquarters at 221 DuPont Cirle Bldg., Washington 6, D. C. Anderson has been assigned to the Home Office District which includes northern sections of Ohio and West Virginia, and areas of western New York and Pennsylvania. He was at one time connected with the company's Chicago office. Prior to his present appointment, Stafford served as assistant to the offset division manager of R. Hoe & Co. Previously he assisted in the preparation of Lithographic Technical Foundation publications while on the educational staff of LTF. He will be located at the New York office at 380 Second Ave.

P. S. Jones, vice Pres. in Charge of Sales, Cutler-Hammer, Inc., has announced the following appointments. H. B. Phillips (left) has been appointed Sales Mgr., Quantity Sales Div., comprising heating device sales, refrigeration control sales and small motor switch sales. F. A. Wright (center) has been named Sales Mgr. of District Sales and J. M. Cook (right) has been appointed Sales Mgr., Industrial Control Div. Phillips joined the Cutler-Hammer engineering department in 1911 upon graduation from the University of Michigan. He has been identified with the company's Chicago, Detroit, St. Louis and Milwaukee sales offices. Upon graduation from the University of Michigan in 1927, Wright joined Cutler-Hammer as a student engineer. His new duties include supervision of the firm's sales offices and distributors. Cook became associated with Cutler-Hammer upon his graduation from the University of Minnesota in 1928. He was connected with the Milwaukee and Cincinnati district sales offices until 1944, when he was named manager of the San Francisco district sales office and plant.

Photon Announcement

William W. Garth, jr., President of Photon, Incorporated, recently announced that his company is in he process of completing the first 10 Higonnet-Maoyroud Photographic Type Composing Machines which he said are ready for field testing. According to Garth, the testing will be conducted in cooperation with a number of subscribers of the Graphic Arts Research Foundation, Inc. At the same time he said that the machines will be leased rather than sold outright. He cited the reason for the lease arrangement is the expected development of improvements in various components of the machine by Photon within the next five to ten years.

Acquires Chicago Plant

Bertsch & Cooper, Inc., Chicago advertising typographers, has acquired all facilities of Graphic Arts Typographers, Inc., Chicago. The expanded service will operate from Bertsch & Cooper's present plant located at 155 E. Ohio St., Chicago. Harold M. Koch, Vice Pres., and Arthur Langner, Sales Mgr. of B&C, will continue in their present capacities. Ray Lecture, president of Graphic Arts Typographers, has been elected Vice Pres. of B&C.

Hoe Press for RIT

R. Hoe & Co., Inc., recently placed a Hoe Web Offset Jobber at the disposal of the Graphic Arts Research Div., Rochester Institute of Technology. The press is installed in the Offset Laboratory and will be used in research projects being conducted on tone reproduction and offset plate testing. Specifications of the Hoe press are as follows: max. web width, 14 in. roll diam., approx. 28 in. A knife above the delivery outlet provides for a cut-off of 8½ in. permitting delivered sheets 8½ in. wide and up to 14 in. in length. Its 1½ h.p. motor is equipped with a variable speed transmission which provides press speeds of 10,000 to 30,000 i.p.h.

Teletypesetter Course

The Linotype School of the Missouri School of Journalism is offering training in the operation of the Teletypesetter Tape Perforator, according to Earl F. English, Dean of the School of Journalism. The 18 weeks course starts September 15. Another 18 weeks course is scheduled to begin February 3, 1953, and a 12 weeks summer course will commence on June 8, 1953. Full tuition for the 18 week courses is $150, while that for the shorter summer course is $110. It was stated that students who cannot type a minimum of 30 words a minute are advised not to take the course. The school also said in its announcement that because of limited Teletypesetter equipment, it would have to limit to six the number of students that would be accepted for the course, at least for the initial term. Application blanks and other information may be procured by writing Paul Fisher, Director, Linotype School, School of Journalism, Columbia, Mo.

Ink Booklet Available

Recent developments in letterpress, offset and gravure inks are discussed in the 16 page booklet entitled *Printing Inks of Today*, issued by the National Assoc. of Printing Ink Makers, Inc. New ink drying techniques, research on new ink vehicles, heat-set ink, ink for sheet-fed application, faster setting inks for offset printing, making inks scuff-resistant and gloss ink developments are typical of the subjects dealt with in the booklet. It also includes recent information on new aniline inks, poster inks and inks for tin and cellophane printing. The cover of *Printing Inks of Today* is rainbow printed in red, yellow and blue. Copies may be obtained without charge by writing the Association at 1440 Broadway, New York 18, N. Y.

ANPA RESEARCH COMMITTEE MEMBERS

President Charles F. McCahill of the American Newspaper Publishers Association has announced members of the ANPA Mechanical Research Committee as follows:

William Baumrucker, jr., Washington (D.C.) *Times-Herald*, Chairman;
Ralph R. Cranmer, Williamsport (Pa.) *Grit*;
William Dwight, Holyoke (Mass.) *Transcript-Telegram*;
George L. Green, Providence (R. I.) *Journal* and *Bulletin*;
J. L. Stackhouse, Easton (Pa.) *Express*.

ITCA Convention

THE 33rd Annual Convention of the Intl. Typographic Composition Assoc. will be held at the Hotel Statler, St. Louis, Mo., on October 8, 9, 10 and 11. The tentative schedule of events will include the President's Reception and advance registration on Wednesday, October 8. The first convention session will be held on Thursday, October 9, with a demonstration of the Intertype Fotosetter taking place in the evening of that day in the plant of Warwick Typographers, St. Louis.

Friday, October 10, is planned for a meeting of the Young ITCA Executives, symposium on transparent proofing, symposium on production record keeping and standard accounting, and the second convention session. That evening, a demonstration of transparent proofing on the Model ABT Vandercook Proof Press is to be held in the plant of the Superior Typesetting Co., St. Louis.

The final day of the annual meet, Saturday, October 11, will include the third convention session, a luncheon for all registrants with a speaker, the final convention session, and the annual dinner and dance with a floor show, presentation of awards, etc.

In connection with the Convention there will be exhibits of work produced on the Fotosetter and Photon photographic type composing machine. Another exhibit will consist of advertising produced by ITCA members to promote the composition business. A showing of a few selected devices designed to improve composing room operation and a display of the winning designs in the ITCA Apprentice Design Contest will also be included in the Convention's exhibit.

According to Frank M. Sherman, ITCA Secretary and Executive Director, special hotel reservation cards are available to ITCA members. Sherman also stated that plans are being made by the St. Louis local association to provide entertainment for visiting ladies. A special room has been reserved for use as ladies' headquarters during the period of the Convention, and visits to points of interest in the city are on schedule, as is also other entertainment.

Constructs European Plant

The Syracuse Smelting Works, Export Div. of United American Metals Corp., has completed a type metal plant in Brescia, Italy, to be used for serving European printers. The erection of furnaces, pumps, molds and the training of men in the process of alloying used in the American plants of United American Metals is under the supervision of Stanley States, Chief Metallurgist and Superintendent of the firms' San Francisco and Los Angeles plants.

Until restrictions following the war were placed on exports to European countries, the Syracuse Smelting Works was one of the large exporters of type metals to Europe. The Brescia site was chosen as the best location for shipping to all countries on the Continent, as well as to the Far East. William H. Street, President of United American Metals, stated that daily communication with the Brooklyn, N. Y., headquarters by air mail, cable and telephone has been put into effect and samples of each batch of metal are sent to Brooklyn by air mail daily for chemical and physical examination.

The business management of the European plant is under the direction of Dr. Sandro Scotti. States, who has spent six months organizing the plant, will continue at Brescia until the employee training program is completed.

Static Practically Eliminated on Folder — In the bindery of a well known commercial publication and printing plant static electricity caused a great deal of trouble on a Cleveland MM (28 in. by 44 in.) Folder. Most of the trouble was experienced when folding 50 lb. machine coated sheets at 3000 sheets per hr. for a publication having in excess of 200,000 circulation.

The remedial means consisted of mounting two General Electric 115-120 v. a.c., 250 w. infrared reflector type bulbs. The bulbs were spaced 12 in. apart with the dome of the bulb about 3 in. above the surface of the sheet and approx. 12 in. from the first fold plate. The supporting bracket was fashioned from regular perforated pipe strapping arched as shown in the accompanying illustration with angle braces of the same material at the right-angle bend of the bracket. Each lamp was mounted in inverted position in a separate receptacle. Wiring is contained within flexible metal conduit. A separable Hubbell plug at the side of the machine frame permits disconnecting the line wire from the junction box.

The bindery foreman states this device has eliminated 90% of his static troubles. The other 10% is taken care of by fastening Kromekote strips on the last folding plate. He explained further that the heat emitted from the lamps is of sufficient intensity to scorch the paper unless the sheet is removed when the machine is stopped.

RIT Offset Seminar

A lecture by Dr. Anthony George, Sinclair & Valentine Co., was the highlight of a seminar on bi-metal offset held recently for students majoring in offset printing at Rochester Institute of Technology, Rochester, N. Y. Dr. George's talk was followed by a demonstration on making a standard Lithure plate, a product of Printing Developments, Inc., a division of Time, Inc. The lecturer pointed out that considerable research was being carried on in the development of the Lithure plate at the research laboratory of Time, Inc., at Springdale, Conn. This first seminar will become a regular part of the Institute's advanced offset platemaking course in the future, it was announced.

Flint Journal Expansion

The Flint (Mich.) *Journal* recently began construction of a 92 ft. by 109 ft. two-story addition to house new presses, mailing equipment, the display advertising and stereotype departments and a lunch room. The new building will be of poured, reinforced concrete with stone front.

Installed are to be a new Goss Headliner press equipped with General Electric Electronic Press Controls. The Headliner will consist of 12 press units and three folders. It will be arranged in two rows of six units each with one folder in one row and two in the other. Capacity of the press is 96 pages and rated speed is 50,000 newspapers per hr.

The mailing room will be located in the first floor area east of the pressroom. Equipment will include power conveyors and automatic bundling machines. The conveyors will be arranged in a rectangle and will turn in both directions. Papers that come off the conveyors at the east end of the mailing room will be taken by other conveyors to a loading dock at the rear of the building designed to accommodate 12 trucks.

The stereotype department will be located on the second floor east of the display advertising department. An elevator and conveyor for carrying plates to the pressroom is being installed, as well as new plate finishing equipment.

The full basement in the new addition will be utilized for the storage and handling of newsprint rolls. A 400 ft. track system for moving the rolls on dollies will include 10 turntables. Locker rooms in the basement will occupy an area measuring 30 ft. by 15 ft.

Static Control Report

A five page report entitled *Static Problems and Their Control in the Textile Industry* has been made available by the John Hewson Co. Present control methods are summarized in the report in relation to their efficiency and uses in reducing static. Included in the report are schematic diagrams which explain diffuse discharge control of static. Copies may be obtained by writing the Hewson Company at 106 Water St., New York 5, N. Y.

The ABC of OFFSET

For Letterpress Printers

Series Two

By George Jos. Lenzer

IX—LAYOUT AND STRIPPING

GOOD layout men are trained individuals, prossessing a high degree of imagination, the ability to visualize a non-existent product and having an analytical mind. He is in effect a quasi engineer.

Depending upon the plant, the nature of the work produced, the methods of reproduction which are employed, the equipment employed and its capacity, and other production factors enter into the determination of the requirements and skill of a good layout man.

It is obvious that a single individual who is required to make layouts, do the stripping, make the plates and subsequently operate the press, cannot do real justice to all of the jobs performed, if high production is desired.

Our discussion therefore will deal with the specialized operator in a large plant, where more than one type of work is produced.

The good layout man must know:

(1) Every reproduction method or procedure employed in his plant;
(2) The fundamentals of photographic operations;
(3) The basic requirements of the platemaker;
(4) How to make minor corrections on a plate while it is on the press;
(5) How to operate a slide rule, and must possess a keen sense of ratio and proportion;
(6) Something about mechanical drafting and drawing;
(7) How to produce geometrically, a composite of all related elements and portions of a finished job;
(8) The peculiarities of the various kinds of paper;
(9) All binding, finishing, folding and cutting operations and their effects upon the finished job;
(10) How to co-ordinate all layout and stripping operations efficiently and economically, to the satisfaction of the customer, and profitably for his employer;
(11) How to safely handle glass, plastics and paper;
(12) How to use tools, materials, equipment and supplies efficiently and safely;
(13) How to plan operations within his department so as to meet all production schedules and deadlines emanating from his department[1];

[1]Note—A bottleneck here, can virtually break down all other production within the plant from the platemaker through the printing and finishing. In this respect, an efficient production system must be effective and operative throughout the plant.

(14) How to read proofs, at least, superficially;
(15) To check press sheets for position against his own work and in relation to all finishing operations;
(16) How to co-operate with all related departments and department heads. Co-operation is essential.

Layout is Important

Every printer knows the importance of good layouts. He has this advantage, that he can select the proper type style, spacing and positioning, justification, lining and ruling. Single column, double column and a full page bodies are simple matters for him, as are also the inclusion of halftone or line cuts, zinc etchings and wood blocks.

The printer's job is still easier when his copy is provided by skilled craftsmen in typography and allied printing trades, as well as experienced advertising agencies.

Unfortunately the offset printer or lithographer has none of the printer's advantages. In fact, he must rely extensively upon the typographic skill of the compositor and printer for the effectiveness of the offset reproductions. Most frequently, a reproduction proof sheet from the printer is the copy which is reproduced photographically by the offset lithographer.

The matter of layout with the printer can become a more or less stereotyped procedure. Not so with the offset-lithographer.

His customers cover wholly unrelated personalities and ideologies, from the best organized advertising agencies to the basest illiterate, or inexperienced, self appointed ad or layout men, and school children.

The offset layout man must contend with well planned layouts from a qualified agency, with typography, art work and all related material neatly presented, covered and protected; then adjust himself to handling a maze of unrelated or disorganized material which has been delivered in a bushel basket or carton, and then been dumped on his desk. School papers and annuals present their individual problems. The kids want to make their own layouts and pasteups for reproduction. Then they expect the lithographic printer to produce a high quality reproduction in perfect alignment, spacing and proportions.

In offset, layout serves a double purpose, as a necessity to the industry and as a service to the customer who is ignorant of the process or its requirements. This frequently means that the layout man must make job pasteups in addition

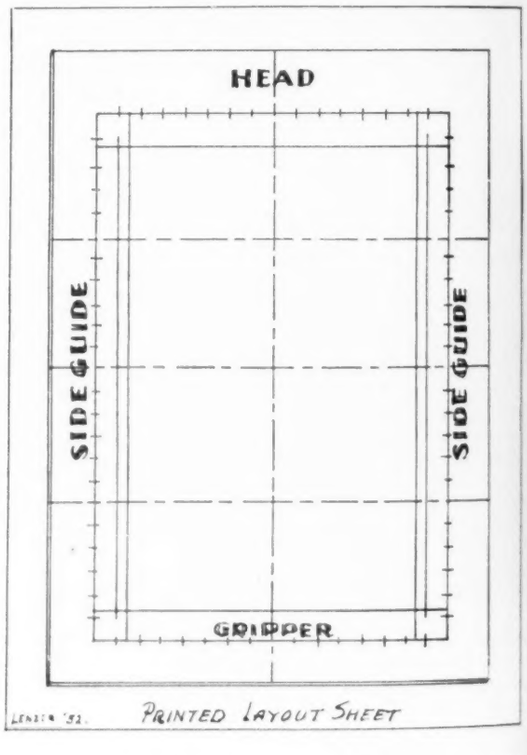
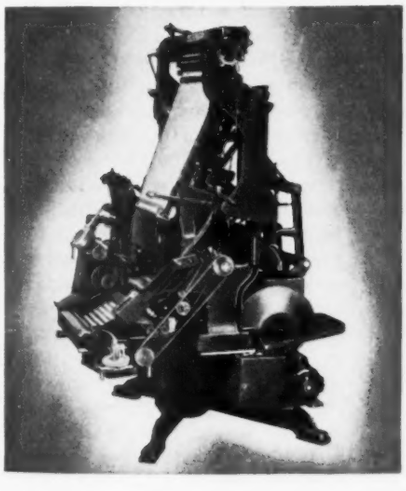


Fig. 7.—Composite layout sheets generally are cut to specific plate size. Sheet establishes correct gripper position, side guides, sheet sizes and work areas.

Speed is built into a machine, right from the start!



The speed of a crack passenger train like The Super Chief is no accident or afterthought. Day-after-day high speed is designed into a train, from the sleek, streamlined outer skin to the twin Diesels that supply the power for fast and dependable long runs.

Speed in a composing machine and the ability to stand up under high-speed round-the-clock production call for the same thorough consideration of every mechanical and structural detail. It took painstaking basic planning to produce the Linotype Comet, the machine whose speed was built in, from the very beginning!

Linotype's belief that only in this way could a really fast machine be perfected has been amply substantiated by the experience of hundreds of publishers during more than eighteen months of service. The Comet has won its overwhelming popularity through proved performance—sustained speeds up to 12 lines a minute to meet all local requirements, operating simplicity, and maintenance economy! Mergenthaler Linotype Company, 29 Ryerson Street, Brooklyn 5, N. Y. In Canada, Canadian Linotype, Limited, Toronto.

• LINOTYPE • ***BLUE STREAK COMET***

Linotype Spartan and Corona Families

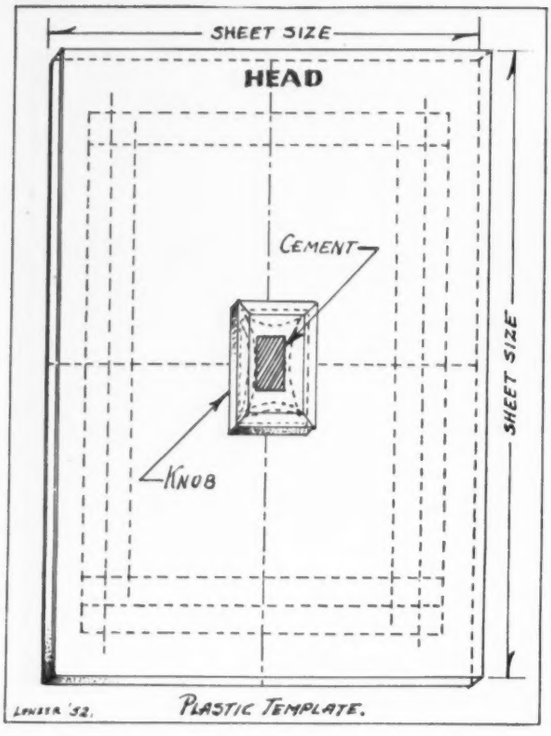


Fig. 8. — In standardized procedures covering such items as book work, it is advisable to use templates for squaring and aligning negatives, especially if the negatives are to be ganged or multiple printed on a single flat. These templates are cut to specific sizes from Plexiglass.

to layouts of the complete assembly for the platemaker and press run.

Since work sizes vary from small tax stamps to huge 24 sheet posters, it is evident that the layout man and his duties are among the most important in the industry.

Layout Simplification

To simplify some of the layout operations, recourse is taken to standardized layout sheets and templates. These serve various purposes and are generally applicable to standardized production.

Printed layout sheets are generally cut to the specific plate size. This assures rapid placement by the platemaker, and guarantees full coverage and protection of those areas of the plate not to be exposed to the action of light.

The composite layout besides indicating actual centers, horizontal and vertical, also establishes the correct gripper, side guides, sheet sizes and work areas (Fig. 7).

Since the paper is translucent and the printed lines are opaque, it becomes a simple matter for the stripper to position negatives in their proper positions on the layout sheet. Horizontal matter can be aligned to the horizontal center line, and vertical alignment is accomplished by using the vertical rulings and center lines.

In the main, negative cutting is eliminated except where separate negative material must be included in the flat, thus permitting a single exposure by the platemaker.

However, if a separate halftone negative is to be included, it is better to double print the halftone than to incorporate it with a line negative. This is especially true, if the halftone image is trimmed too close to the printing edge. Distortion of the halftone image may result, and there is always the element of chance that an undersirable line will print wherever the slitted or cut edges adjoin each other.

There are other exceptions to this procedure which will be discussed later.

Templates

In standardized procedures covering such items as book work, regulation stationery, standard office forms, etc., it is advisable to use templates for the squaring and alignment of the negatives, especially where such negatives are to be ganged or printed in multiples on a single flat.

These templates should be cut to specific sizes such as 8½ in. by 11 in.; 5 in. by 7 in. or to any other sizes suitable to standard requirements. They should be made of dimensionally stable plastics such as ⅛ in. Plexiglass or similar transparent plastic material.

The outer edges of these templates are used as straight edges and are used as the guides for scribing dimension lines in the emulsion of the film or plate. Hence, the template must be carefully made and must be as accurate as possible for squareness and alignments.

Each template is ruled to establish horizontal and vertical center lines. Maximum and minimum margins are established with standard page head and foot indications or rulings. Consideration is also given to both left and right-hand binding, punching and folding requirements.

To facilitate handling of the templates a knob of wood is cemented to the exact center of the template (Fig. 8). Why the knob should be cemented instead of being fastened by a screw or other fastening, is because such fastenings may tend to become loose and may scratch negatives during use.

In making the templates it is important to have the ruled side as the contact side, and not the knob side. The rules should be brought into direct contact with the emulsion.

Using the template becomes a time saving operation. It automatically establishes a perfect check of the negative. Any error in spacing or proportion is quickly determined. For expediency and greater accuracy in using the templates, it is advisable to separate all page negatives into groups of left hand and right-hand pages. By handling each group individually, the possibility of improper or incorrect alignment is reduced to a minimum, and all scribe marks will be uniformly established on all negatives in each group.

Checking Templates

For standardized production, checking templates are additional time savers.

A sheet of dimensionally stable plastic material is cut exactly to the printed sheet size, *i.e.*, 17 in. by 22 in. With suitable plastic ink, the sheet is ruled to

(*Continued on Page 78*)

Nickel-Steel Plating on New Foundry Type

DURING the Type and Design Clinic at the St. Louis Craftsmen's convention, Haywood Hunt, San Francisco's famous Typographer, said that he had the printing face of all new fonts of foundry type plated with nickel-steel approx. 0.001 in. thick. He has had all point size foundry type plated up to 60 pt. He explained that the plating is especially effective in increasing the longevity of foundry type especially in the smaller Copper Plate Gothic series and in the case of script faces.

The plating is done by a regular commercial plating firm in San Francisco. Before sending the new type to the plater's it is locked in a form with all high machine-cast spacing without leading between the lines. All the lines must come out even to a given measure. The bottom of the form is covered with old plastic electrotype molds and fastened to the chase with Scotch tape to prevent the electrolytic solution wetting any part of the type face body other than the face. The plating cost is approx. 1c per sq. in.

Hunt's suggestion was made in response to a criticism voiced by Herbert Ahrendt, New York commercial printer. Ahrendt asked "Why don't the foundry type manufacturers cast type from a more durable alloy? There isn't anything that ruins the appearance of a printed job so quickly as worn type."

Patents

For The GRAPHIC ARTS

Covering patents issued June 17, June 24 and July 1.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Binding, Cutting, Perforation

2,601,113. ATTACHMENT FOR BOOK SEWING MACHINES is for use with a conventional type of sewing machine such as the Smyth No. 12 Book Sewing Machine. It is operable to detect the improper positioning of a signature upon the movable saddle of such a machine and in response thereto to actuate an electric circuit for simultaneously disrupting the driving connection between the power shaft and the cam shaft of the machine and applying a brake to the power shaft of the machine when a timing switch is closed at a predetermined book sewing position. Invented by Arley R. Gilliam, Kingsport, Tenn. Unassigned. Application May 6, 1948. 7 Claims.

Composing Room Equipment

2,600,559. MOLD FOR CASTING PRINTERS' RULES, LEADS, AND THE LIKE comprises a female mold member providing a flat casting channel having an open discharge end and a base inlet end for molten metal with side walls of a height greater than the thickness of lead to be cast in the mold. A male mold member comprises block arranged to extend between and closely fitted to the side walls. Spacers of predetermined thickness are interposed between the side walls and the recessed overlying edge portions of the male mold member. Fastenings connect the male and female mold members. Invented by John C. McCauley, Mattapan, Mass. Assigned to Ludlow Typograph Co., Chicago, Ill. Application January 31, 1950. 2 Claims.

Feeding, Folding, Delivery

2,601,071. WEB ROLL ACCELERATING APPARATUS is for accelerating a fresh web roll to a running web speed in preparation for splicing the fresh roll to a running web. The accelerator comprises the combination, with web consuming apparatus and a web running thereto, of a fresh web roll support, an electric motor having an armature and a series field connected to drive a roll on the support. A web speed responsive mechanism is driven by the web consuming apparatus and a roll speed responsive mechanism is driven by the motor. A mechanism responsive to an excess of the roll speed indicated

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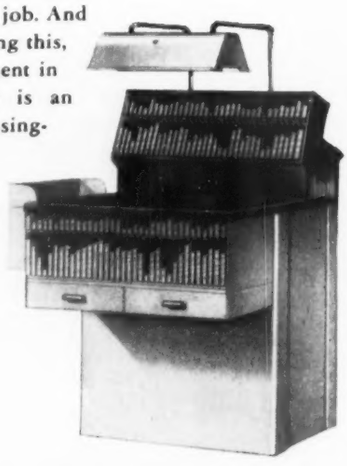

Hamilton equipment

PEAK PRODUCTION

Hamilton Manufacturing Company

TWO RIVERS, WISCONSIN

by the roll speed responsive device over the web speed indicated by the web speed responsive device connects a resistor in series with the armature and series field of motor. Invented by Paul F. Tollison, North Plainfield, N. J. Assigned to Wood Newspaper Machinery Corp., Plainfield, N. J. Application January 21, 1949. 11 Claims.

2,601,072. SHEET FEEDING DEVICE includes a frame adapted to be floatingly supported exclusively by the stack of sheets to be fed from the top to a printing press. A driven sheet delivery member is longitudinally and movably mounted on the frame and is adapted to successively engage the top sheet of the stack and push same from beneath the frame. The frame includes a mechanism for engaging the front edge of the sheet below the top sheet for retaining it during the discharge of the top sheet by the delivery member. Invented by Robert J. Van Schie, Grand Rapids, Mich. Unassigned. Application January 19, 1952. 18 Claims.

2,601,984. SHEET FEEDING APPARATUS is for feeding wrappers from a stack to a position for application around newspapers, periodicals, and the like. A perforated suction roller is rotatably mounted on a tubular axle adapted to be connected to a continuously operating suction pump. A shoe on axle is within roller and bears on the lowermost part of the inner face of the roller. A reciprocatory mounting for the roller axis moves roller alternately downward towards uppermost sheet of a stack and upwardly from the stack. Invented by Douglas H. Pope, Boondall, near Brisbane, Queensland, Australia. Unassigned. Application January 25, 1951; in Australia January 20, 1950. 3 Claims.

Plate Making

2,600,505. A LAY-OUT BOARD for advertising matter to be photographically reproduced for printing comprises a base of non-magnetic material and marginal flange members on the base having fixed retaining portions overlying and spaced from the top surface of the base at the side edges. A plurality of U-shaped magnetic bars are embedded in and extend lengthwise of the base with the pole pieces of the magnets flush with the top surface of the base. A surface sheet overlies the base and flexible strips of paper having the advertising matter to be reproduced typed thereon and a backing of magnetic material are placed on the surface sheet with the edges received and retained by the flanges and held on the board by magnets. Invented by Max H. Jones, Evanston, Ill. Assigned to Tribune Company, Chicago, Ill. Application August 19, 1948. 3 Claims.

2,601,804. STEP AND REPEAT FILM HOLDER is useful with a photo-process camera such as used for making half-tones and other plates for printing processes such as a plate for printing a sheet of stamps, identical labels, etc. An object is to facilitate the accurate positioning of a film-carrying frame through a series of positions. This is accomplished by providing a fixed stop and an adjustable one, the latter being arranged to be accurately set by a micro-reading gauge and a cooperative positioning bracket which, while in engagement with the fixed stop, can be locked to the film carrier and moved with it into engagement

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

with the adjusted stop. This gives the holder reliably uniform movement equal to the distance between the two stops. Invented by Edward Nineberg, Chicago, Ill. Assigned to Benjamin Sugarman, Chicago, Ill. Application June 7, 1950. 13 Claims.

2,602,024. ROLLER ETCHING MACHINE is for use in preparing plates for relief, planographic, and intaglio printing processes. The dots and lines on the plate surface will have a pyramidal base which increases their strength to withstand printing pressures. The machine has a vertical work holding mandrel, a plurality of tanks in radial arrangement and communicating with the machine casing. A roller rotates about the axis of mandrel. Means are provided in the radially arranged tanks for impelling a liquid radially with respect to the mandrel and for controlling the material applied to the roller. Invented by Floyd R. Lear, sr., Easton, Pa. Assigned to Industrial Gravure Co., Easton, Pa. Application September 13, 1950. 15 Claims.

Printing Presses and Equipment

2,601,220. CYLINDER ADJUSTING MECHANISM FOR ROTARY PRINTING PRESSES includes a normally fixed main frame, an auxiliary frame and a support for the auxiliary frame for vertical adjustment relative to the main frame. Such support comprises a plurality of posts which are vertically adjustable to correspondingly adjust the auxiliary frame. Thus a printing roll carried by the auxiliary frame is adapted to be adjusted to and from printing position relative to a cooperating printing roll carried by the main frame. The posts are also adjustable so that they can support printing rolls of any diameter within a predetermined range. Invented by Ralph R. Richardson and William H. Edmondson, Chicago, Ill. Assigned to United Biscuit Co., Chicago, Ill. Application August 20, 1945. 16 Claims.

2,601,325. MEANS FOR SEGREGATING ADJOINING PRINTED IMPRESSIONS is effective when used with inks having different characteristics and obviates the need for grooving or otherwise marring the ink transfer rollers. Invention features a roll cooperable with selected ink conveying portions of at least one of the ink transfer rollers to remove excess ink from those portions. A mounting bracket for said roll has a shaft upon which the roll is rotatably journalled. An ink scraper is carried by the bracket and is cooperable with the rim of the roll. A toggle carried by the bracket is operable by frictional engagement with one end of the roll to swing the scraper toward and away from the roll rim. Means are included for resiliently urging the roll toward the toggle. Invented by Raymond E. Richter, Milwaukee, Wis. Unassigned. Application May 3, 1947. 10 Claims.

EXECUTIVE Cs

Mrs. Dorothy B. Smith has been appointed as representative in the Seattle, Wash., area for Morehouse Industries of Los Angeles, according to an announcement by D. L. Grubbs, General Mgr. Mrs. Smith has operated her own business, D. B. Smith—Chemicals, since 1942 and maintains headquarters at 1016 First Ave., South, Seattle 4, Wash. Her son, Arden C. Smith, is associated with her in the sales department.

Robert F. Nelson has been elected President and General Mgr. of the Lanston Monotype Machine Co., it has been announced by Sylvester W. Muldowny, Chairman of the Board of Directors. Prior to filling this post, Nelson was executive vice president of American Type Founders. According to the announcement, he will develop the

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TRY THESE EASTERN PRODUCTS IN YOUR PLANT!

- ★ STEREOTYPE EQUIPMENT AND SUPPLIES
- ★ FLECTO GUMMED BACKING FELT Cellophane Wrapped—Moisture-Proof
- ★ PRESS BLANKETS
- ★ PLASTIC MOLDING BLANKETS
- ★ NEOPRENE BLANKETS 1/8", 3/16", 1/4"
- ★ DOUBLE COATED CUT MOUNTING TAPE 1/4", 1/2", 1", 2"
- ★ DIRECT PRESSURE MOLDING MATERIALS
- ★ EASTERN CIRCULAR SAWS AND JIG SAW BLADES
- ★ MATRIX SCORCHERS . . . MATRIX TRIMMING SHEARS
- ★ ROUTER BITS FOR ENGRAVING AND STEREOTYPE DEPARTMENTS
- ★ LINOTYPE MATRIX CABINETS
- ★ LINOTYPE OPERATORS CHAIRS . . . STANDS
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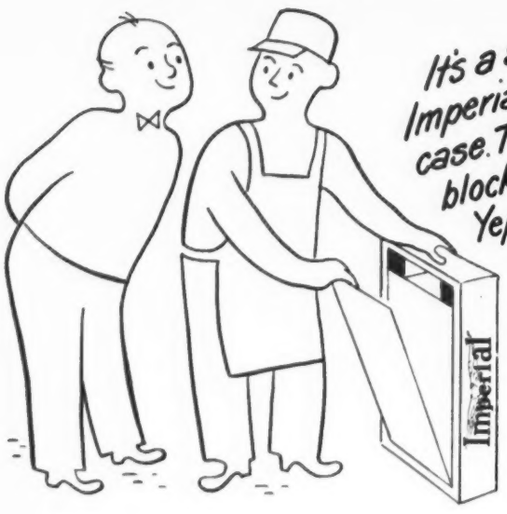
company's research program for the improvement of products for the Graphic Arts industry to its fullest. His contributions in the field of fire control and the production of computer instruments during World War II brought him recognition from the U. S. Navy and the presentation of the Distinguished Public Service Award. At present, he is also chairman of the Panel on Guns, Research and Development Board, Washington, D. C.

Frederick Von der Horst, receiving and warehouse superintendent of the Chicago *Tribune* prior to his retirement in 1947, died July 30 at his home in Alden, Ill., one day after observing his 76th birthday. Von der Horst joined the *Tribune* on April 1, 1907, and some 15 years later he assumed charge of the *Tribune's* newsprint warehouse. He was responsible for many labor saving improvements, including a gravity railroad, known among *Tribune* officials as the Von der Horst East West railroad, which delivers paper to all points in the warehouse including the 1200 ft. underground railroad which connects the warehouse with Tribune Tower.

James F. Clay has been named Engraving Supt. of the Oklahoma City (Okla.) *Daily Oklahoma-Times*, according to an announcement by the Oklahoma Publishing Co., owner of the two newspapers. Clay succeeds Arch Dixon who has taken a position with Marathon Corporation, Menasha, Wis.

Why do I Like Imperial ?



It's a snap to remove Imperial sheets from the case. Two little wooden blocks do the trick. Yep-Imperial keeps to heart the interests of the man in the shop.

Every case of Imperial Register-Redibak Zinc has two wooden blocks that separate the sheets from the end of the case, so the sheets are easily removed. Mighty convenient.

Imperial Zinc

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IMPERIAL TYPE METAL COMPANY

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Adam J. Schreiber (shown here) retired recently as Stereotype Foreman of the Rochester (N. Y.) *Times - Union*. Mr. Schreiber began his newspaper career at the age of 12 as an errand boy for the Rochester *Times*. He later became a helper in the pressroom and stereotype department, and in 1914 became foreman of the latter department. With the consolidation in 1918 of the *Times* with the *Union* and *Advertiser*, he was named assistant stereotype foreman and in 1923 assumed the position he has retired from. He was guest of honor at a recent testimonial dinner given by his associates on the Gannett Newspapers. Schreiber is succeeded by Warren Lynch, formerly stereotype foreman of the Rochester (N. Y.) *Democrat & Chronicle*.

Henry Taylor has been named Manager of the Rochester, N. Y., office of Ideal Roller & Mfg. Co., according to an announcement by N. L. Rowe, Eastern Mgr. Taylor has had pressroom experience in various New England plants. During World War II, he served in the printing department of the U. S. Navy at Newport, R. I. He will make his headquarters in Rochester at 14 Franklin St.

R. T. Garver has been appointed to the position of Special Representative of Goodyear Tire & Rubber Co.'s printers' supply sales Western Div., with headquarters in Chicago, according to an announcement by E. R. Coate, Manager of the company's Printers' Supply Sales. Garver replaces L. D. Morgan who has resigned to accept a position with Hill Rubber Co., Western distributor for Goodyear printers' supplies. Morgan will be located in Hill's recently opened Houston, Tex., office. Garver served as inside staffman of the printers' supply department in Akron, O., prior to his present appointment.

why "STAR" spacebands are tops!

EACH MINUTE DETAIL has been carefully engineered. For example, here is a Star Spaceband Sleeve. Note how the inside surface is ground to a smooth finish. This reduces frictional wear on the wedge. Note the undercut (arrow) next to and under the dovetail. This further reduces the strain at the weak points inherent in the wide range type spacebands such as the teletypesetter sizes.

★ ★ ★

This is one of the many reasons why STAR spacebands are tops,—why hundreds of plants throughout the western hemisphere and abroad have standardized on STAR spacebands.

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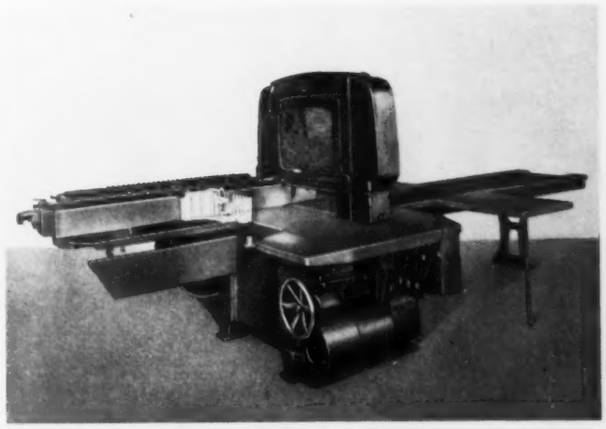
This Straight Line Trimmer

•

does away with waste motion

. . . and needless rehandling

Assures unqualified accuracy!



The Brackett Safety Trimmer

Trimming of labels, booklets, catalogs, inserts and other flat work is handled by the Brackett at double or triple the speed of the conventional guillotine trimmer • On the Brackett, work moves in a straight line, away from the operator, without waste motion or needless rehandling • The use of mechanically set spacer shafts insures fine accuracy without even the tiniest variation. This accuracy is maintained from start to finish, no matter how large the run • For jobs that repeat, settings may be retained, with important savings in time otherwise required for resetting • The Brackett handles work up to 25½" in width and 50" in length • Standard equipment includes two spacer shafts. Extra shafts for permanent set-ups can be supplied • Write for literature.

Dexter Folder Company

General Sales Offices
330 West 42nd Street • New York 36, N. Y.
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Cleveland • Washington • St. Louis

Appointment of four executives to new positions in the Maqua Company, Schenectady, N. Y., as a result of major changes in the company's organization, has been announced by James A. Westlin, President and General Mgr. Named to head four newly-established divisions of the company are Donald A. Wood, Asst. Mgr., who continues in that position and is Manager of Customer Service; Malcolm T. Means, Treasurer, who continues in that post and is Manager of Finance; Ralph W. Robbins, Manager of Manufacturing and Engineering; and George W. Kremzier, Manager of Distribution. The steady growth of the Maqua Company's business has made necessary the new divisional organization, according to Westlin. Established in 1907 as a printing and engraving affiliate of the General Electric Co., the company employs 700 persons and is Schenectady's fourth largest industry.

The Board of Directors of the Timken Roller Bearing Co. has elected John A. Riley to the post of Secretary and Treasurer. Riley succeeds to the position vacated by the late R. C. Brower. Riley joined the Timken company in 1925 after spending 18 years in the banking and public accounting business. While with Timken, he initiated an executive training program in which he still participates. He has held the posts of comptroller, assistant secretary and assistant treasurer of the company.

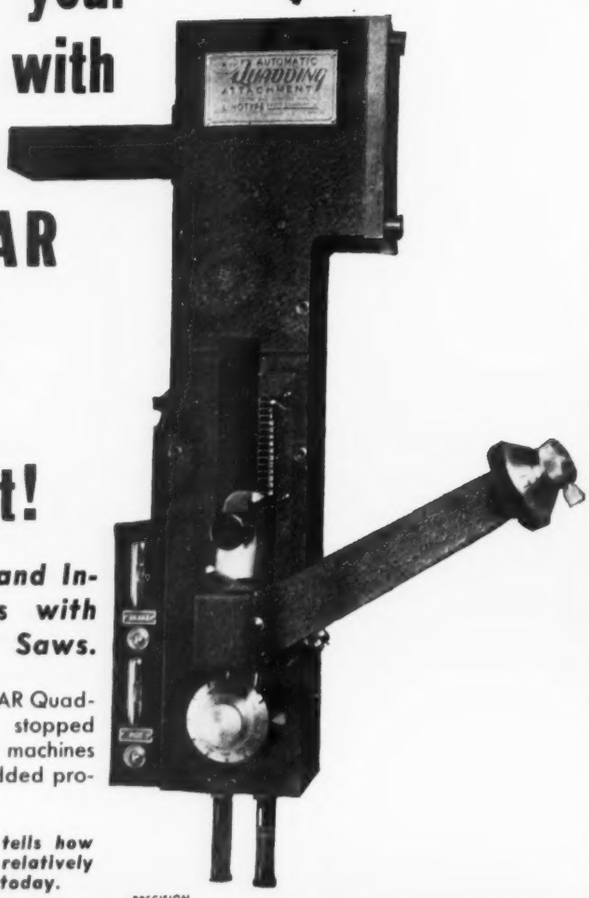
Dr. G. W. Ovink, type authority and art director of Typefoundry Amsterdam, will tour the United States this fall under the sponsorship of American Type Founders. Time is being made available for talks on type in many of the larger printing centers. Dr. Ovink will speak on new advances in type designing in Europe and will discuss ATF's type faces. The itinerary arranged for Dr. Ovink includes New York, Boston, Detroit, Cincinnati, Chicago, San Francisco, Los Angeles, Dallas, St. Louis, Atlanta, Washington, Baltimore and Philadelphia. The tour will start on September 2 and end in Toronto and Montreal the last week in November. Because his tour is limited to approximately three months, ATF stated it is impossible for Dr. Ovink to accept many invitations to speak in cities not on the schedule. Craftsmen's Clubs, Typophiles and other Graphic Arts groups planning fall programs and interested in hearing Dr. Ovink may obtain detailed information on his scheduled appearances from Frank Gerhart, Advertising and Sales Promotion Mgr., American Type Founders, Inc., Elizabeth B, New Jersey.

Elmer G. Stacy, Eastern Sales Mgr., Klingrose Gravure Div., American Type Founders, recently joined the faculty of West Virginia Institute of Technology for the post graduate course leading to the degree of Master of Science in Printing. Rotogravure's part in the 12 week course was held July 21-25. Stacy has spent the last two decades in the gravure field, and has covered every phase from building and operating presses to engraving cylinders. He is also an authority on printing estimating and cost finding. He spent several weeks in assembling exhibits to illustrate his lectures prior to conducting the course which included cylinder etching, proving, press preparation and printing on various types of material such as metal foil, cellophane and glassine.

Appointment of Donald R. Guthrie as Executive Engineer in Charge of Engineering Research, was announced recently by Minnesota Mining & Mfg.

SAVE $ Thousands of $ Dollars... $

modernize your "ad" alley with the now famed STAR Automatic Quadding Attachment!



For all Linotype and Intertype Machines with or without Mohr Saws.

Since the advent of the STAR Quadder, wise owners have stopped scrapping perfectly good machines to obtain the necessary added production of a quadder.

The Model "E" brochure tells how to increase production at relatively low cost. Write for it today.

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1 PERIODIC ANALYSES plus detailed laboratory reports to help Imperial users maintain proper and uniform quality of their working metal supplies. (Originated by Imperial.)

2 PERSONAL COUNSEL and assistance from Imperial representatives who are type metal specialists and serve the graphic arts exclusively.

3 PLUS METAL SERVICE. Adjusting alloys of proper formula to restore the working metal supply to full casting efficiency. (Another Imperial "first".)

4 DROSS DRUM SERVICE. Shipping containers supplied without charge for convenient accumulation and exchange of customer's dross for equivalent weight of Plus Metal. (Again a "first" by Imperial.)

Whether you buy metal by pounds or by tons, the complete Imperial "Better Metal —Better Printing" Program contains something of interest for you. Ask the Imperial representative for all the details next time he calls.

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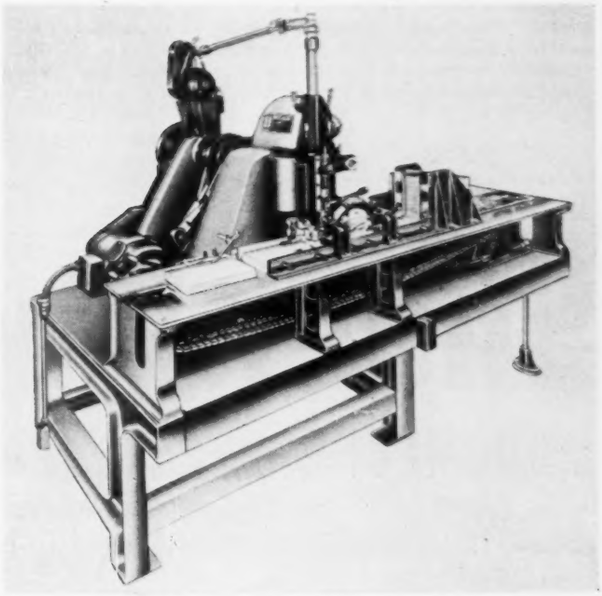
Books Sewn This Way are Much Stronger

. . . and cost less to produce!



The McCain Book Side Sewing Machine

This machine produces much stronger, much more rugged books • Its normal operating speed is 250 one inch stitches per minute • Books more than ¾" thick are drilled half from above, half from below • Drill chips are removed by vacuum. Single thread is used, lubricated with liquid soap • As book is sewed, bottom row of stitching is tightly glued for extra strength • End sheets and reinforcing strips are sewed right in. Separate color and halftone pages are jogged and sewn into the complete unit • Machine is easily adjusted, cleaned and lubricated.

Estimated production in number of books*

Thickness	Books per hour	Thickness	Books per hour
3/16 to 3/4"	1,000	1-1/2"	600
7/8"	900	1-3/4"	500
1"	800	2"	400
1-1/4"	700		

**Based on books 8½" long and untrimmed*

Write for brochure telling more about this method of producing much stronger books and at the same time raising production and reducing binding costs.

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Co. C. P. Pesek, Vice Pres. in Charge of Engineering and Properties, said Guthrie will organize an engineering research group consisting of three sections: chemical engineering, machine development and instrument engineering. The purpose of the new group will be to provide specialized engineering assistance to engineers in the company's various product divisions. Guthrie joined MMM as a research chemist in 1939 and was made a division engineer in 1944. He received his degree in chemical engineering from the University of Iowa in 1938.

Henry J. Lindsay has been named Manager of the Justowriter Div. of Commercial Controls Corp., where he will have charge of the sales promotion and future development of the company's Justowriter cold type composing machine, according to Chas. R. Ogsbuy President. A native of Rochester, N. Y., Lindsay was previously associated with the Kamb, Meteyer and Lindsay advertising agency in that city. He first joined the predecessor company of Commercial Controls in 1936, becoming advertising manager of the Electric Writing Machine Div. During World War II, Lindsay served with the U.S. Army in the Pacific Theatre. He later was appointed advertising manager of Commercial Controls Corp. and its subsidiary, Electromode Corporation.

Harold Byrne of Miehle Printing Press & Mfg. Co. has been assigned to Rochester, N. Y., as Sales-Service Representative, according to an announcement by Carlton Mellick, Vice Pres. Byrne will assist Wilbur Leonard in Miehle's upstate New York area. Byrne has been associated with the company since World War II as an erector and demonstrator in the New York office.

Addition of four engineers to district sales offices of the Reliance Electric & Engineering Co., has been announced by E. E. Helm, Sales Vice Pres. These Reliance engineers, who already have taken over their new assignments, are: James McCrea Biggar, Cleveland District Sales Office, 13967 Cedar Rd. He reports to W. W. Spanagel, Cleveland District Mgr. Burton B. Finigan, New York District Sales Office, 420 Lexington Ave., reporting to C. D. Herbert, New York District Mgr. Walter A. Jensen, who goes to the Buffalo District Sales Office, 4405 Ellicott Sq. Bldg. He reports to C. B. Allen, Buffalo District Mgr. William C. Prettyman, to the Central Western District Sales Office, 154 E. Erie St., Chicago, reporting to R. O. Herbig, Central Western District Mgr.

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MONOMELT POWER SHEAR!

Accurate
Fast
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● Cuts and trims copper, zinc and plastic plates . . . electrotypes, stereotypes. The Monomelt Power Shear is rugged and strong. Built for heavy-duty day-in, day-out service. Hardened tool steel cutting blades make clean, straight cuts. Saves time! Completely eliminates burrs! Speeds production! Equal to three saws. Cuts and trims up to 24" wide.

Maximum safety and protection. No flying metal chips . . . no dangerous whirling saws. Non-repeating foot-operated clutch.

Monomelt Power Shears are still available. See your dealer or write for complete information.

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Recent Equipment Reports

Rosback Installations

Recent installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: Auto-Stitcher, Brewer-Borg Corp., Bridgeport, Conn. (installed by E. C. Fuller Co.); Auto-Stitcher, Jas. C. Wood, Inc., Washington, D. C. (installed by E. H. Walker Supply Co., Inc.); Extra Heavy Power Perforator, U. S. Atomic Energy Commission, Lemont, Ill. (installed by Gane Bros. & Lane, Inc.); Vair-Speed Perforator and Super XX Perforator, Wm. B. Burford Printing Co., Indianapolis, Ind. (installed by Economy Printers Products Co.); Gang Stitcher, Hudler Press, Noblesville, Ind. (installed by Gane Bros. & Lane, Inc.); Twenty-Two Perforator, Twin City Printing Co., Monroe, La. (installed by Gane Bros. & Lane, Inc.); Multiple Punching Machine, Milton C. Johnson Co., Boston (installed by E. P. Lawson Co., Inc.); Auto-Stitcher, Boynton Press, Lawrence, Mass., and Twenty-Two Perforator, A. L. Frederette Co., Springfield, Mass. (both installed by Wild & Stevens, Inc.);

Vari-Speed Perforator, Tri-Country Publications, Belle, Mo. (installed by American Type Founders); Twenty-Two Perforator, Cook Paint & Varnish Co., Kansas City, Mo. (installed by Addressograph-Multigraph Corp.); and Auto-Stitcher, Ballston Spa (N. Y.) *Journal* (installed by Western Newspaper Union).

Others include a Vari-Speed Perforator, McDonald Printing Co., Norwood, O. (installed by American Type Founders); Vari-Speed Perforator, Tribune Printing Co., Beaver Falls, Pa. (installed by American Type Founders); Twenty-Two Perforator, J. F. G. Coffee Co., Knoxville, Tenn. (installed by Addressograph-Multigraph Corp.); Auto-Stitcher, Hermitage Printing Co., Nashville, Tenn. (installed by Western Newspaper Union); Twenty-Two Perforator, City of Austin, Austin, Tex. (installed by Texas Type Foundry); Twenty-Two Perforator, Graham Office Supply, Graham, Tex. (installed by E. C. Palmer & Co. Ltd.); Twenty-Two Perforator, Virginia Medical College, Richmond, Va. (installed by Addressograph-Multigraph Corp).

BOOKS

Research and Engineering Program

IN A bulletin labeled "*RS-3—A Listing of Research and Engineering Programs Pertaining to the Graphic Arts*, the Research and Engineering Council has brought up to date its reissue of former editions of non-confidential research and engineering programs. In this edition, 289 activities are listed together with a brief summary of the purpose of each activity. The report contains 111 new projects not previously listed. It also has been reorganized so as to identify new projects, progress reports on previous projects and completed projects.

This new report indicates that investigational and engineering work is industry-wide. It also will enable all printing executives to know what is going on in the Graphic Arts industry with respect to non-confidential research and engineering activities. Another purpose of the report is to inform anyone as to *who* is working on *what*. In some instances, this will avoid duplication of effort as well as making it possible for executives having a common interest to get together for the purpose of interchanging information or to speed up solution.

In the Foreword, Council President Edward J. Tribe explains that the projects are divided into 12 general divisions. These are Bindery, Color, Composition, Dry Relief Offset, Gravure, Ink, Offset-Lithography, Paper and Packing Materials, Photography, Plates (all kinds), Presswork, Printing Processes and Miscellaneous.

There is also a listing of projects by project sponsors with their addresses.

This is a valuable publication if you, as a printing executive, are interested in possible future refinement of the processes and methods employed in your plant. By means of this report you can anticipate what is ahead of you in the near future, providing, of course, that any given project can be concluded satisfactorily. Not to become too enthusiastic, we want to mention again that research itself doesn't always pay off. The cost of research, however, is a fair charge upon the industry.

In addition to revising the method of presenting Research and Engineering projects, Council Publications Committee Chairman John H. Davis, jr., has introduced a plan whereby Council members will receive supplementary information every six months.

Research and Engineering Programs—Published by Research and Engineering Council of the Graphic Arts Industry, Inc., 719 Fifteenth St., N.W., Washington 5, D.C. Consists of 40 pages, 8½ in. by 11 in., punched for loose leaf binder. Price $1 per copy. Order direct from the Council at address given above.

Plant Maintenance Techniques

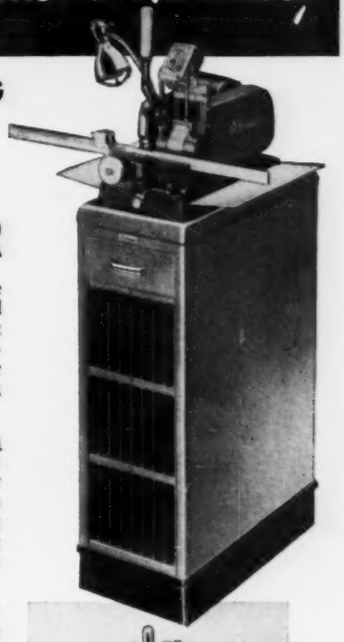
WHAT is stated to be the most comprehensive discussion about plant maintenance problems is contained in *Techniques of Plant Maintenance—1952*. The book has been published by Clapp

DO THE WORK OF HOURS *in Minutes!*

SLASH YOUR PRINTING COSTS WITH THE

Rouse

POWER MITERER



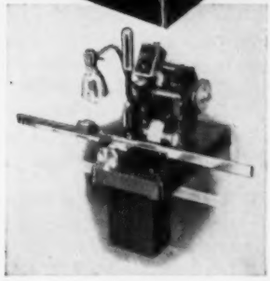
If you need miters in either small or large quantities, no other machine nor method can turn out anywhere near as many perfect joining miters so quickly from strip material. That's how the Rouse Power Miterer can slash your printing costs by doing work in minutes that now takes you hours.

A Rouse Power Miterer won't cost you one cent! Printers the world over say that money paid for a Rouse Power Miterer quickly comes back through tremendous savings in expensive time. After getting your money back, you'll start collecting daily dividends from permanently lower operating costs.

FROM THE SMALLEST JOB SHOP UP TO THE LARGEST PLANT, ONLY ROUSE MAKES A POWER MITERER FOR EVERY TYPE OF USE.

You may buy any Rouse Power Miterer as a bench model or with any other equipment you wish.

Virtually every printing plant in the world uses one or more Rouse products.



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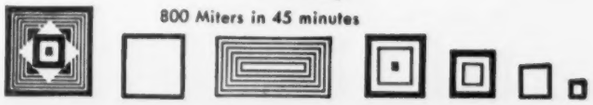

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MITERING MACHINES
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TYPE GAUGES
SLUG CLIPPERS
BAND SAWS

& Poliak, Inc., which firm conducts the annual Plant Maintenance Conference and Show, the discussions reported in this book having occurred at the recent Philadelphia meeting. While the content of the book is not isolated with respect to printing plants, yet it does contain a wide variety of matter applicable to industrial maintenance problems in general.

For instance, the chapters on Preventive Maintenance with respect to Inspection Methods and Records and Planning and Scheduling Maintenance Work, will enable the plant maintenance head to install a fool-proof system for making sure that periodical duties have been attended to.

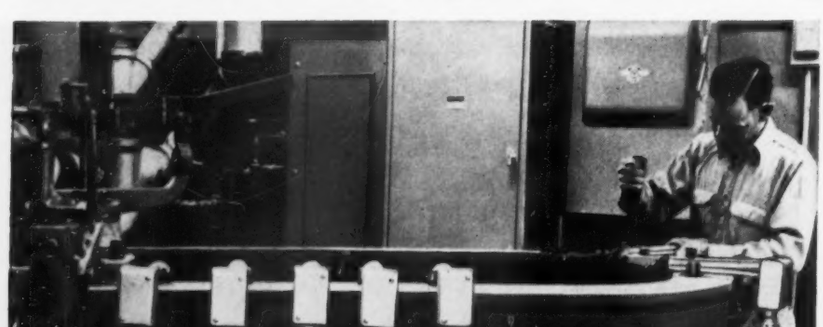
The subject of maintenance costs is dipped into rather extensively, as are How to Maintain Plant Buildings and How to Maintain Electrical Equipment.

Maintenance of the small, medium and large size plant with important questions and answers are treated extensively.

Since maintenance department heads no longer can duck the vital problem of training maintenance workers and supervisors, in both large and the smaller plant, a great deal of information can be obtained from the chapter on this subject by Chase O. Ofen, Supt. of Shops and Maintenance, The Dow Chemical Co., Midland, Mich. A number of trades are represented in the maintenance organization of The Dow Chemical Co. The maintenance courses required for different categories are discussed and described.

Techniques of Plant Maintenance 1952—Collated from proceedings of the 1952 Plant Maintenance Conference and Show. Many prominent plant maintenance executives and manufacturers' representatives participated in this technical program. Illustrated with 49 charts, diagrams, graphs and tables. Consists of 182 pages, 8½ in. by 11 in., hard binding in blue cloth and gold stamping. Price, $6 per copy postpaid. Order direct from Clapp and Poliak, Inc., 341 Madison Ave., New York 17, N. Y.

New Printing Plant Chooses G-E Heaters For Efficient Stereotype Metal Melting



The Lancaster, Pennsylvania, INTELLIGENCER-JOURNAL, NEW ERA, and SUNDAY NEWS have chosen G-E Calrod* heaters for stereotype metal melting in their new printing plant. This modern plant prints six editions daily with a total circulation of 73,000, and they must use the most reliable melting methods.

Nine 10-kw Calrod immersion heaters heat 7 tons of type metal to exacting temperatures, and then keep the metal molten.

Insist on G-E Calrod immersion heaters because:

- **Accurate control of temperatures** provides sharp type faces at low operating costs.
- **Dependable heat** meets exacting time schedules and reduces shutdowns.
- **Electric heat melts metals fast** so there is always plenty of hot metal.
- **Automatic operation** gives uniform results and working conditions are improved because no waste gases contaminate the atmosphere.

CALL, WRITE OR SEE your nearest G-E Sales Office for suggestions and recommendations on *your* metal melting job. Or send for Bulletin GEA-5453 to *Section* 720-79, *General Electric Company, Schenectady, N. Y.*

*Reg. Trademark of General Electric Co.

GENERAL ELECTRIC

NPA
Printing and Publishing Division

Paper Order Amended

A reduction in reserve percentages of certain grades of paper and elimination of other grades of paper and paperboard from reserve requirements was announced recently by A. G. Natwick, Director of the Pulp, Paper and Paperboard Div. of the National Production Authority. The action was taken through the amendment of NPA Order M-36, Government orders for paper, effective August 1. The amendment reduces the following reserve percentages: groundwood papers (uncoated), from 10 to 5 percent; paper machine coated papers and book papers, from 10 to 5 percent; rag writing papers, from 15 to 10 percent; coarse papers (unbleached kraft grades only), from 10 to 5 percent.

Order M-36, issued February 8, 1951, required paper and paperboard manufacturers to establish reserves of designated grades of paper and paperboard according to specified percentages of their monthly production to fill Government orders. Natwick explained that production of paper and paperboard for the last few months has exceeded the combined civilian and government requirements. In addition, Government orders have been below the reserve percentages for a number of grades of paper and paperboard.

Plastic Stereotype Plate

PARTIAL release of details regarding a flat and/or curved plastic printing plate for national advertising use and as a replacement for the standard newspaper stereotype curved metal printing plate has been made by the co-inventors. The two men who have been engaged in development work for a number of years past are Fred Gross, Production Mgr. of the San Francisco (Calif.) *Chronicle* and Ellis C. Lyons, Composing Machine Machinist with Phillips Van Orden, San Francisco subsidiary of the Pacific Press.

First PIA Exhibition Entry—The first entry to be submitted for the Printing Industry of America's Printers' and Lithographers' Self-Advertising Exhibition was received recently from Kurt H. Volk, Inc., New York. Shown above is the Miller Printing Machinery Co.'s mail girl receiving the package from a Pittsburgh mailman. All entries for the Exhibition must reach the Miller company by September 19.

It is understood patent claims have been filed with the U.S. Patent Office.

Mr. Gross stated the results of previous experimental work proved feasibility of casting curved plastic plates from stereotype mats for daily newspaper printing.

He explained that packing of molded stereotype mats is eliminated, due to the low pressure molding and the low temperature (approx. 198 deg. F. in the case of a flat-cast plate) at which the fluid plastic is injected. A new type of composition consisting of approx. 80% thermoplastic presently is employed.

In the case of the curved-cast plastic stereotype plate, Mr. Gross stated he did not anticipate any softening of the plastic compound under frictional or temperature influences while printing on fast rotary newspaper presses.

The plastic flat plate has a flexing strength of 12,500 lbs. per sq. in. with a specific gravity of 1.245 and a Rockwell hardness of L122 M115. The solidifying rate in the casting box is 63 sec. at 198 deg. F. Weight of a standard size newspaper plastic plate is between 7½ lbs. and 8 lbs. The comparable stereotype metal plate weighs on an average from 45 lbs. to 50 lbs.

It was also explained by Mr. Gross that the equipment necessary to produce plastic curved plates consists of a pot in which the plastic compound is mixed, control valve, and a casting box constructed preferably of aluminum alloy with vacuum attachment to hold the mat firmly against the contour of the box lid. It is expected that the curved plates will be mounted on pre-cast plastic saddles to bring the sandwich up to standard stereotype metal plate thickness. The plastic plate is bonded to the saddle in the casting box. After a plate is ready to be discarded, the plastic may be stripped off and the saddle used repeatedly for an indefinite period. Both the flat and curved plates may be shaved, routed or sawed with existing equipment.

Some experimental work remains to be done. As soon as satisfactory trial runs in actual production operation have been completed, full details will be released by Messrs. Gross and Lyons.

Graphic Arts Dictionary

It has been announced by the Printing Industry of America that publication of its proposed Graphic Arts Dictionary probably is 18 to 24 months away. This dictionary will be the largest and most comprehensive dictionary of the Graphic Arts ever compiled, including 15,000 definitions. It will cover every process of the Graphic Arts, including letterpress printing, offset, gravure silk screen, photoengraving, electrotyping, art and photography, ink, paper manufacturing, copy preparation, editing, book and pamphlet binding and finishing, presswork, and many others. It includes terms of interest to everyone engaged in the buying, selling, or production of all Graphic Arts services and products in the newspaper, magazine, and book publishing fields, advertising agency work, and every other field in which printed material is purchased and used. It has been compiled over a period of five years of intensive work with the aid of prominent authorities and foremost experts in their respective fields and more than 21 leading institutions, technical groups, and associations in the Graphic Arts.

John A. McLean, well known throughout the Graphic Arts, and former platemaking superintendent of the U.S. Government Printing Office, is editor of

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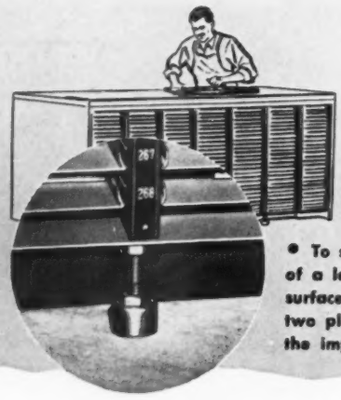
the dictionary. Besides acknowledgement to many unnamed people in the Graphic Arts, the following names have been mentioned in the prospectus as having contributed substantially in compilation work: Elbridge W. Palmer, Harry A. Groesbeck, jr., J. S. Mertle, Clarence P. Hornung, J. Homer Winkler, Harry L. Gage, Leo H. Joachim, Fred J. Hartman, Charles W. Latham, C. A. Mawicke, Bernard J. Snyder Frank Gerhart, A. P. Scjloegel, Edward M. Gottschall, Morris S. Kantrowitz, Carl E. Borklund, Harry A. Porter, William C. Walker, Russell A. Hogan, W. Arthur Cole, Bruno Menzer, Charles V. Morris, Lee Augustine, Edward M. Allen, Myron F. Lewis, Joseph Chanko.

The *Dictionary of the Graphic Arts* will sell for $10 per copy. However, a pre-publication subscription offer is being made by the publishers at $8.50 per copy postpaid. No money is needed to reserve your copy, but the $8.50 price will be payable upon receipt of the book.

Printing Industry of America, Inc., 719 Fifteenth St., N.W., Washington 5, D.C., is sponsoring publication and will receive your pre-publication subscription.

Production and Mechanical Executives are invited to submit to the editor informally in a letter devices which have helped production in their plants.

it's a trick of the trade



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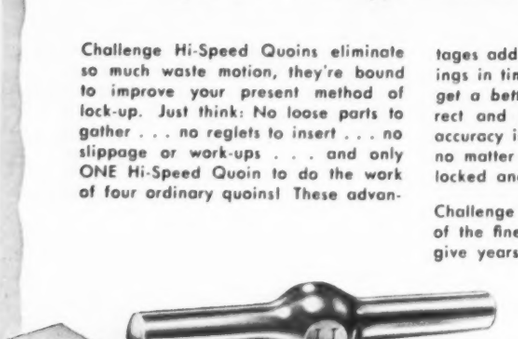

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Rand McNally's New Plant

FIVE prominent artists have entered a restricted competition to design a mural painting for the reception lobby of Rand McNally & Co.'s new general office and plant building being built in Skokie, Ill., according to an announcement made recently by Andrew McNally III, President of the company. The building will house offset printing, ticket printing, globe and map mounting and map drafting activities of the firm as well as its general offices and editorial departments. The offices will occupy a two-story section at one corner of the building. Plant facilities will all be on one floor, and will be arranged for efficient flow of production.

Designed on progressive architectural principles, the building is characterized by large glass areas, simply finished brick, Indiana limestone, and concrete and steel construction. Clear, two-story, double-glazed windows will reach from ground level to roof, highlighted by a facade of vertical fins of Indiana limestone that will double as sun breaks.

The building will provide 180,000 sq. ft. of production space and 44,000 sq. ft. of offices, and has been designed to meet structural, mechanical and power requirements for the presses and other equipment it will house. All offices and portions of the plant will be air conditioned. Certain areas will be conditioned to a 75 deg. max. temperature with humidity reduced to 50 per cent. A cafeteria will seat approximately 200 people at a time, and there will be a lighted and paved parking area that will accommodate 300 cars. Approx. 700 people are expected to be employed in the new building.

Rand McNally expects to move into the new building sometime this fall. It will maintain a retail store in Chicago at 124 W. Monroe St., and will have a city sales office at the same address.

Rand McNally is known to the general public for its maps, which it makes at the rate of over 150 million a year. It is claimed to be the largest commercial producer of maps in the world.

The firm is also a publisher of school text books and books for children. Its adult non-fiction department publishes a variety of titles, among which has recently been the best-seller, *Kon-Tiki*. Its Conkey Division also prints books for other publishers, including the *New Century Dictionary*, the *Collier Encyclopedia*, and the 54 volume *Great Books of the Western World* series, as well as hymnals, text books, Sweet's catalog files and other catalogs.

Rand McNally has printed railroad tickets since 1866. The ticket printing division also produces airline and bus tickets and many forms of coupon and scrip books and other forms of numbered printing that requires special equipment. It also publishes the *Bankers Directory*, a standard authority in the banking field, and the *Bankers Monthly* magazine.

Silk Screen Exposition

Theme of the Fourth Annual Convention and Exposition of the Screen Process Printing Assoc., Intl., to be held at the Hotel Sherman, Chicago, October 25-29, will be the *Exposition of Screen Progress*. According to the SPPA, an attendance of 5,000 processors, suppliers to the trade, advertisers, agency men, artists and printers is expected at the week-long event. An international art exhibit of screen process printing samples from the United States, Canada and other parts of the world will serve to illustrate modern silk screen printing as it is generally available today. The equipment exhibit will consist of printing presses, conveyors, photographic products and other supplies used in screen process operations. Educational clinics covering the production and administrative phases of the screen printing industry are scheduled for those in attendance.

Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Association — 1952 Convention, Drake Hotel, Chicago, October 6, 7 and 8. W. K. James, President; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference — 1953 Conference, Milwaukee, Wis., June 15, 16 and 17. Conference sessions and exhibits to be held in Civic Auditorium; Conference headquarters, Hotel Schroeder. Chairman of the Committee, L. J. Griner, Production Mgr. Detroit *Free Press;* Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftsmen's Conference — 1953 Conference, Lansing, Mich., June 26 and 27, hotel to be announced. Secretary-Treasurer, Robert Wolf, Richardson-Taylor-Globe Co., 1501 Mitchell Ave., Cincinnati 32, O.

Graphic Arts Trade Association Executives—1952 Annual meeting, Plaza Hotel, St. Louis, Mo. October 10 and 11. President, Henry Henneberg, c/o Printing Industries Assoc., 2569 W. Olympic Blvd., Los Angeles 6, Calif.

Gravure Technical Association—Secretary-Treasurer, J. E. Hazel, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conference—1953 Conference, Deshler-Wallick Hotel, Columbus, O. January 11-13. President, Harry A. Miller, Mechanical Supt., Dayton (O.) *Daily News;* Secretary-Treasurer, Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press*. Co-chairmen, Manufacturers' and Suppliers' Committee, Ray Burgoon, Sales Representative, Mergenthaler Linotype Co., 192 Haldy Ave., Columbus 4, O.; Clarence Seaman, Vice President, Imperial Type Metal Co., 1276 W. Third St., Cleveland 13, O.

Illinois Newspaper Mechanical Conference—1952 Conference, Hotel Kankakee, Kankakee, Ill., October 4 and 5. President, Verne Bradley, Kankakee, (Ill.) *Daily Journal;* Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers—1952 Convention, Cosmopolitan Hotel, Denver, Colo., October 13, 14, 15 and 16. President, C. C. Barnes, Ft. Wayne Engraving Co., 118-120 W. Superior St., Ft. Wayne 1, Ind.; A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen — 1953 Convention, Adolphus Hotel, Dallas, Tex., September 13, 14, 15 and 16. Convention in 1954 to be held in Philadelphia, dates to be announced. President, Gordon J. Holmquist, Cole-Holmquist Press, 1228 S. Flower St., Los Angles 15, Calif., Executive Secy., Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, O.

International Graphic Arts Education Association—1953 meeting to be held in New York, N. Y., in June. Dates and hotel to be announced later. President, Patrick F. Boughal, Principal, New York (N. Y.) School of Printing; Acting Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association—1952 Convention, Hotel Statler, St. Louis, Mo., October 9, 10 and 11.

TINGULOK—the new clipper lacing system for blanketing — retires a couple of more inefficient press room old timers . . . the blanket punch and blanket pins. **TINGULOK** enables your press crews to apply blankets faster than with any other method. Blanket punching and pinning are things of the past . . . all they do is run clipper lace wire through elements on **TINGULOK** Lead Flap and **TINGULOK** Blankets and Drawsheet. Reel in — wrap Blankets around cylinder and run second clipper lace wire through lacing on tail of drawsheet—reel in and the blanketing is completed. **TINGULOK** Flap and Blanket sets are made up complete for both two and three piece combinations. **"TINGULOK"** *the most economical and simplest system of blanketing rotary newspaper presses.*

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that keep metal costs low...

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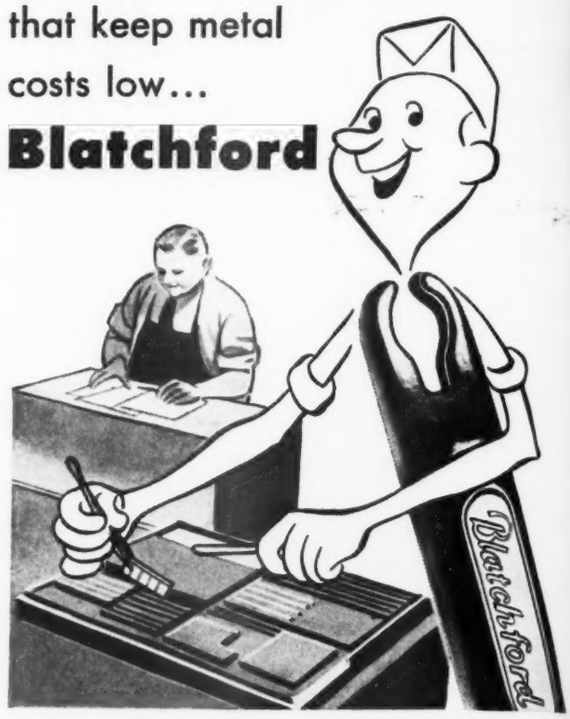

In the light of today's skyrocketing costs, it will pay you to consider every means to hold expenses down. For example... your metal stock.

Blatchford Metal helps keep operating costs down and production up in these three ways.

IN MACHINE COMPOSITION, you get fewer imperfect casts and greater operating efficiency. Blatchford Metal melts smoothly, flows freely, molds sharply. *You get clean, solid casts.*

IN "STEREO" CASTING, you get less porosity...sounder plates. And Blatchford's fluidity helps you "get" every detail of the mat. *You get a plate true to the mold, time after time.*

IN PRINTING, you get better plate performance, fewer "sinks." Blatchford stands up to rough treatment. *You get long, steady, clean press runs.*

Let Blatchford help you, your skilled staff and your expensive machinery produce to capacity. Buy Blatchford and compare.

Free chart for re-melt rooms tells, step by step, how to keep metal "healthy" and *cut dross loss* with Blatchford Type Metal Flux. Just write, Box P-E-2, the office nearest you for "Re-melt Chart."

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CELLOPHANE WRAPPED GUMMED PACKING FELT

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Table is available with any combination of 9″ and 18″ compartments.

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1953 Convention, Mayflower Hotel, Washington, D. C., September 24, 25 and 26. President, John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference — President, Glen Meloy, Des Moines (Ia.) *Register-Tribune;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas Newspaper Mechanical Conference — 1952 Conference, Broadview Hotel, Wichita, Kan., September 13 and 14. President, W. A. Blackburn, Herington (Kan.) *Advertiser-Times;* Secretary-Treasurer, Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1953 Convention, Edgewater Beach Hotel, Chicago, June 17, 18 and 19. President, William H. Walters, United States Printing and Lithograph Co., Mineola, L. I., N. Y.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conference — 1953 Conference, William Penn Hotel, Pittsburgh, Pa., March 12, 13 and 14. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conference Director, Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

Missouri Newspaper Mechanical Conference—1952 Conference, Hotel President, Kansas City, Mo., October 11 and 12. President, Mike Creasy, Composing Room Supt., Columbia (Mo.) *Tribune;* Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index.*

National Safety Congress and Exposition —Fortieth meeting to be held October 20, 21, 22, 23, 24, 1952. Industrial safety sessions scheduled for Conrad Hilton, Congress, Morrison and Sheraton Hotels. R. L. Forney, General Secy., National Safety Council, 425 N. Michigan Ave., Chicago 11, Ill.

National Association of Litho Clubs — 1953 Convention to be held in Detroit during month of May, exact dates and hotel to be announced later. President, John F. Maquire, Offset Engravers, 42 E. 20th St., New York, N. Y.; Secretary, Angelo Pustorino, Daniel Murphy Co., 480 Canal St., New York, N. Y.

Milwaukee-Racine Craftsmen Hear of Foreman Training—A recent meeting of the Milwaukee-Racine Club of Printing House Craftsmen featured a demonstration of the LTF-PIA Foreman Training Program. Ray Vallier, Operations Supt., Western States Envelope Co., Milwaukee, conducted a classroom presentation of the LTF-PIA foreman training course. Larry Brehm, Training Director, Western Printing and Lithographing Co., Racine, told of the development of the training course which is intended to fill the needs of a foreman in controlling both the work and the workers in his department. Some of the members of the Club who played the part of student-foremen and the leaders of the training technique discussion are, from left to right: Charles Sangwin, Sangwin Ink Co.; Mr. Vallier; Mr. Brehm; Art Johnson, Manager, Milwaukee Graphic Arts Assoc.; Joe Glejnik, Purchasing Agent, Western States Envelope Co.; and John Gruesser, Sales, Badger-American Electrotype Co., Milwaukee.

National Association of Photo-Lithographers—1952 Convention, Hotel New Yorker, New York, N. Y., November 5, 6, 7 and 8. Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 36, N. Y.

National Printing Equipment Association, Inc.—1952 meeting, Chase Hotel, St. Louis, October 15. Directors meeting at 8 P.M., October 14, Chase Hotel. President, Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; **James E. Bennet, Secretary, 140 Nassau St., New York 38, N. Y.**

New England Mechanical Conference — 1952 Conference, Hotel Statler, Boston, October 25 and 26. The 1953 Conference will be held at Hotel Statler on October 17 and 18, 1953. 1952 officers: President, Howard J. Mehigan, Stereotype Supt., Bridgeport (Conn.) *Herald;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day.*

Northwest Mechanical Conference — 1952 Conference, Hotel Duluth, Duluth, Minn., September 20, 21 and 22. President, John Breen, Mechanical Supt., Duluth (Minn.) *Herald* and *News-Tribune;* Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

Pacific Mechanical Conference — 1953 Conference, Statler Hotel, Los Angeles, September 25, 26 and 27. President, Al Tennyson, Composing Room Supt., Los Angeles *Times* and *Mirror;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News.*

Printing Industry of America—1952 Convention, Chase Hotel, St. Louis, October 13-16. President, Arthur A. Wetzel, Wetzel Brothers, 444 N. Broadway, Milwaukee 2, Wis.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc.—1953 Membership Meeting, May 14 and 15, city and hotel to be announced later. 1954 meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. Special Makeready and Pre-Makeready meeting, Chicago, December 5 and 6, 1952. Hotel to be announced later. Next Executive Meeting, Hotel Cleveland, Cleveland, January 23, 1953. President Edward J. Triebe, Kingsport Press, Kingsport, Tenn.; Official Headquarters, Bernard J. Taymans, Managing Director, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Association — 1952 Convention, Sherman Hotel, Chicago, October 25-29. President, John W. Key, Admiral Screen Print Corp., 627 W. Lake St., Chicago 6, Ill.

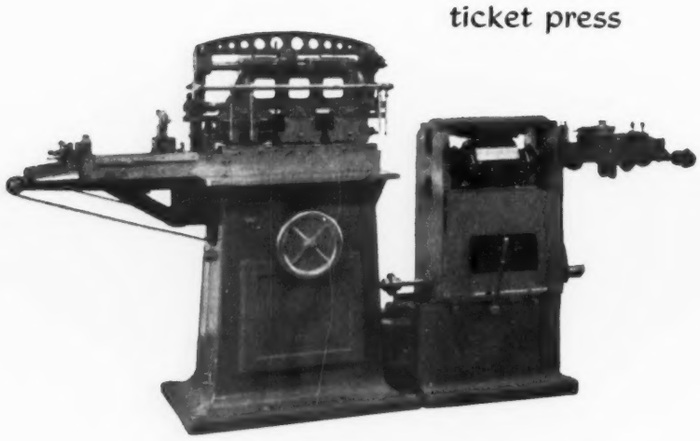
SNPA (Eastern Div.) Mechanical Conference—Secretary, Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.

SNPA (Western Div.) Mechanical Conference — Chairman, Frederic R. Rice, Little Rock (Ark.) *Democrat;* Chairman of Supply Men's Committee, Edwin Yagow, Goss Printing Press Co. City for 1953 meeting to be selected later.

Technical Assoc. of the Graphic Arts—1953 Meeting to be held in Washington, D. C. Hotel and dates to be announced later. President, John McMaster, Graphic Arts Div., Eastman Kodak Co., Rochester, N. Y.; Secretary-Treasurer, Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5.

Rolca

ticket press



The Rolca is a new high-speed, web-fed precision-engineered ticket press. Priced low, compactly designed, it's a big value buy for medium and small shops.
Prints, perforates, punches tickets up to 6½" long.
Quantity: prints 1, 2, 4 or 6 up.
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Speed: up to 12,000 i.p.h. Fast changeover from job to job.
Versatile: can be equipped for varying web-widths up to 2½"; consecutive numbering; slitting, cutting of single tickets.
The Rolca is a rugged performer, easy to operate with all parts readily accessible.

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Typo Clinic

(Continued from Page 32)

hot metal platemaking method. However, Mr. Nielsen explained that his company's studies with respect to magnesium plates has not been completed.

Someone remarked that the industry is going more and more to the pattern plate idea for work to which the magnesium plate is suited. A depth of 0.020 in. can be obtained in one bite when etching the plate. Usual burning-in of the plate between bites is eliminated.

In the case of Fotosetter composition, someone wanted to know about author's alterations charges between hot metal and photographic composition. The reply was that in some instances the charges are comparative.

Speed of Comet

In answer to the question: *What kind of actual production can you expect on Linotype's Comet?* Jackson Burke of Mergenthaler Linotype Co. stated that the Comet was designed to operate at 1

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In 1940		In 1952
40	Bales of Cotton	11
328	Crates of Eggs	115
2611	Bushels of Wheat	1074

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3. The pay-off of this truly American COOPERATION is that your low-priced, "Gold-Mine" BAUMFOLDER will, every year, pay for itself . . . over and over again.

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When You Use

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YOU ARE USING THE BEST AND YOU'LL KNOW IT WHEN YOU USE THEM

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Indianapolis 4, Indiana

There's no need for such a fancy 8 in today's printing, but it is necessary to use the *right* numbering machine on your printing equipment.

Cam actuated—designed for a modern rotary press—this curved-face, curved-base rotary Wetter Numbering Machine will imprint a line of six numbers at right angles to the axis of the impression cylinder. In a one-piece steel frame, the rugged numbering wheels, equipped with heavy-duty ratchets, are capable of operating up to maximum press speed. Each number on each wheel is carefully finished—conforms to the curvature of the cylinder and assures clear, clean cut impressions. And you can save set-up time, eliminate mounting-ring adapters by using the economical Wetter QUIK-LOK clamp base. Send for folder today.

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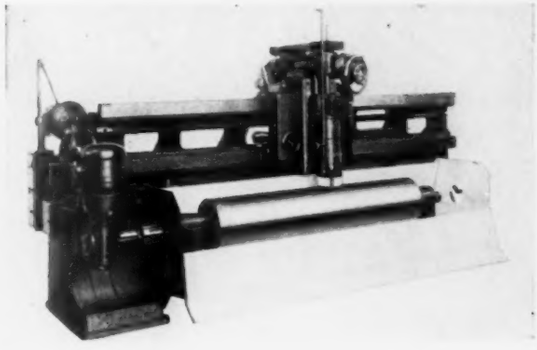

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GRINDING AND POLISHING MACHINE

Precision Built to Grind and Polish to .0003"

Manufactured in two sizes, each being able to handle varying diameters and lengths of cylinders. Special Intaglio stones, using a combined concentric and eccentric motion give a smoother surface in shorter time than obtained with other machines. Water as a coolant eliminates all dust. Precision automatic feed—either continual or at end of each traverse—compensates for stone wear while grinding. When polishing cylinders, stone is "floated" with continuous adjustable pressure, resulting in a higher finish than obtained with paper. Variable speed motors permit a choice of grinding and polishing speeds.

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Manufacturing Gravure Equipment & Supplies
2704 W. Roscoe Street • Chicago 18, Ill.

lines per min. straight matter speed when operated by Teletypesetter operating units. In some plants, however, the machines are operated by Teletypesetter at slower speeds. Mr. Burke referred to a Comet equipped to cast an 8 pt. 12 pica slug. Mr. Gleason said his firm recently installed a Comet which is operated at from 9 to 10 lines per min. casting an 11 pt. 21 pica slug.

Mr. Pagett, in answer to a question from the floor, said it seemed to be the consensus of opinion that with phototypesetting equipment, jobs will have to be planned carefully and accurately. He also said that right now with hot metal composition one can't always give the compositor as clear a picture (layout) as he would like to do because of the time element. Mr. Lamoureux remarked that Fotosetter composition goes through the composing room smoother than does hot metal composition. He thinks the reason for this is that the effect upon the operator is psychological—he is more accurate and likes to do the job right. He is careful with spacing and reads over each line before sending it over to the reproducing mechanism.

No dissenting voice was heard among the typographers with respect to ragged right edge composition. Better tonal value can be obtained because the word spacing is alike. Composition is more readable. Lines can be broken up into phrases. Mr. Lamoureux said lines can be broken into phrases before sending copy to the composing room.

Odd-Measure copy is Duck Soup with a MOHR SAW!

If you produce *any* kind of varied-measure work, you need the Mohr Saw. Applied to (or built into) the linecasting machine, it simplifies measure-changing adjustment and ejects slugs that are ready for use without the need for hand sawing. Small investment, pays its way quickly!

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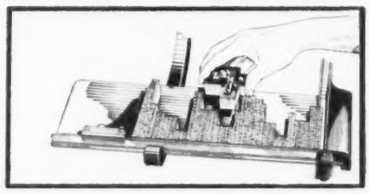

WRITE for free booklet, "Any Measure". It shows how the Mohr Saw pays.

MOHR LINO-SAW CO.
126 N. UNION AVE.
CHICAGO, ILLINOIS

Production Clinic

(Continued from Page 35)

layout man pick letters from the alphabet and build future layout around each letter.

Bindery Problem

The next question: *Before quoting on the job, what essential information is necessary in bindery work?* Mr. Talley replied by saying that usually the trade bindery never sees the job until it comes in through the back door. The trade bindery should be consulted before the job is started. One of the chief faults with trade work is that guides are not marked. Quite often after having quoted a price over the phone, the job is delivered but there have been changes in the job since the quotation was made. This brings about the difficulty of trying to persuade the printer to let the binder change his price as a result of the changes.

Magnesium Plates—Good and Bad Qualities

Inevitably, magnesium plates came in for a considerable part of the discussion. One speaker said that the use of magnesium plates is in its infancy. Magnesium plates are being used successfully in molding stereotype mats. As the impressions multiply the plate becomes harder. It was also reported that when printed from direct on the press, magnesium plates acquire a printing surface hardness which greatly increases plate longevity.

Grade Oakes, who has had considerable experience in making magnesium plates, finds there are some drawbacks. If a wet towel or rag is laid on a magnesium plate it will etch the plate. He reported one instance where a platen press was left over night with an inking roller on the plate in the form. In the morning, it was found that the plate was etched where the contacting surface of the roller occurred. Oakes said he is interested in reducing the cost of magnesium plates. It costs more for the stock, costs more to etch and also costs more to join two plates together.

It was stated by someone in the audience that the slightest acidity or alkalinity of contacting surfaces with magnesium plates causes corrosion. He also stated that a neutral top enamel can now be obtained which eliminates previous trouble with enamel coming off the plate while processing.

Arthur Colton, Chicago Club, stated that in his plant the storage of magnesium plates is successful. The plates are cleaned and are then coated with a neutral oil. Paper is placed between the plates to be stored. Storage periods have extended over several months.

Magnesium Plates—Plenty Available Shortly

In answer to a question, Mr. Oakes said that within six months time mag-

"REGAL" MONOCORK

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New England

This Press Blanket is by far superior to any cork packing that has ever been available to the industry!

We make this claim with no fear of contradiction. Its perfection is attested to by the fact that we have difficulty in keeping up with the demand.

No matter what your reason may be for not having these blankets on your machine, the simple truth is that you are denying yourself the best. Once you learn what "REGAL" has to offer, you too will be a constant repeat user.

YOU BE THE JUDGE!

NEW ENGLAND FIBRE BLANKET COMPANY

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WORCESTER MASSACHUSETTS
BRANCHES: New York—Chicago—San Francisco—Tulsa

"Best natured working force I know of, anywhere"

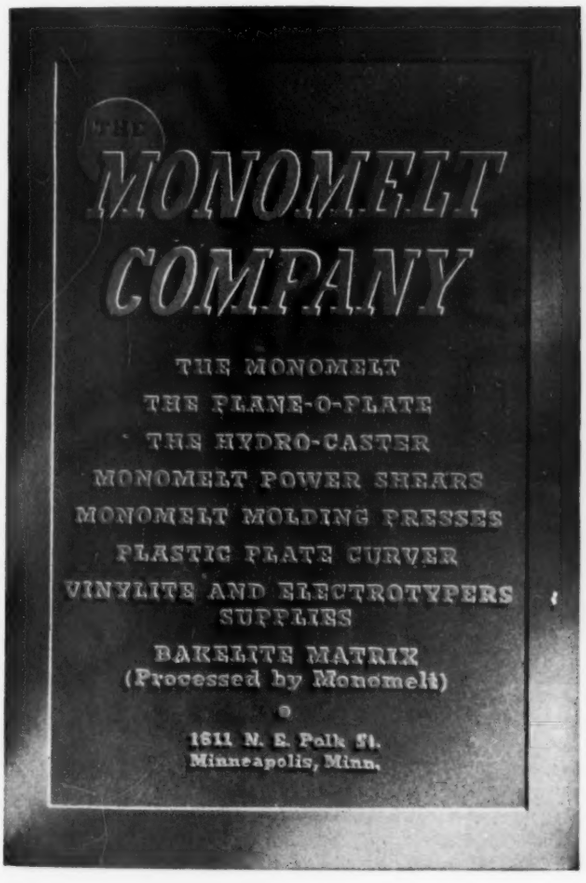
—remarks the new Production Manager, after a month of contact, "and the smoothest running shop. No grouches, no jams."

Mat performance is a big help in winning compliments like this. Rely on Certifieds, UNIFORMLY good.

For dependable stereotyping, rely on Certified Mats

Certified DRY MATS

CERTIFIED DRY MAT CORPORATION, 9 Rockefeller Plaza, Dept. M, New York 20, N. Y.



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There are no grippers on Hess & Barker's continuous feed revolutionary sheet delivery. That is why you are guaranteed 4 to 8 color letterpress sheets at the rate of 10,000 per hour. Hess & Barker's sheet delivery runs nearly trouble-free hour after hour, thus reducing clog-ups to an absolute minimum. This highly efficient sheet delivery is proved satisfactory and very economical.

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BOOTH'S ZINK CUT CEMENT

BEST for mounting cuts and solidifying type elements for standing ads. It mounts cuts quickly and holds them tighter. Used in printing plants all over the country. Get your order in now for a supply necessary for your needs.

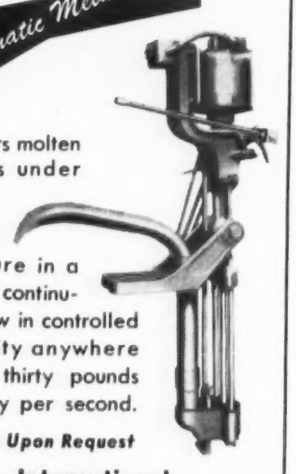
Prices: 75c per tube, $6.00 per dozen in the United States.

E. A. BOOTH RUBBER CO.
2855 Scarboro Road
Cleveland Heights, Ohio

nesium plate stock should be available to everybody. At the present time, only two mills are turning out 16 ga. or less stock for civilian purposes. He explained in detail government requirements for the armed services. Magnesium possesses many good qualities and many peculiarities. He mentioned a small zinc spot plating device which can be used successfully to join or repair plates.

Reference was made to the three and a half year use of magnesium exclusively in the engraving department of the Mercury Press, Washington, D. C. E. R. Owen, Photoengraving Supt., related in the January 1952 issue of *Printing Equipment Engineer* a number of techniques for cleaning, coating, printing down, etching and finishing magnesium engravings.

Automatic Metal Pump



Delivers molten metals under pressure in a steady continuous flow in controlled quantity anywhere up to thirty pounds of alloy per second.

Details Upon Request

International Newspaper Supply Corporation
134 N. La Salle Street
Chicago 2, Ill.

Process Conversion

The conversion of art work when prepared for one platemaking process for use in making plates by another process came up for discussion. It was reported that the same copy can be used for reproduction by any process but the quality will not be the same.

Quality Type Composition

With respect to securing quality type composition, Ted Andrews said there is only one course to pursue—keep relentlessly after trimming knives on composing machines at stated intervals and see that the machines are cared for properly to enable securing quality product.

Zinc Predominates

With respect to the making and use of offset plates, Mr. Roeder stated that at the present time the majority of offset plates are zinc. Some platemakers in the Eighth District are trying out bi- and tri-metal plates. In answer to a question, Mr. Roeder said the continued use of plates thins them down. He said there will be a great field in the smaller sizes for pre-sensitized plates. He reported that most short-cuts in halftones in the Eighth District pertain to masking methods. The new masking methods are very good if understood. In time these methods will bring down plate costs.

Spots in Negatives

In the making of line negatives for offset plates, someone asked for a preventive for eliminating spots—no matter which film he uses the negatives come up with spots. Gradie Oakes answered the question by stating that in contacting negatives in his plant the platemaker uses an electronic brush, perhaps 3 or 4 in. wide. This Static Master Brush takes care of a great percentage of spot trouble.

Reproduction Proofs

Reproduction proofs were discussed. As has been reported previously in *Printing Equipment Engineer*, there is no agreement among platemakers regarding the best stock. One uses Revlon, some use Kromkote, and one Craftsman said one of his customers supplies ledger stock upon which to take his proofs. Mr. Wright advised that one should be careful in using lighter weight stocks to see that the sheet doesn't pucker under impression. On the other hand, if one is using heavy stock don't use too much ink otherwise you'll get halos in the type.

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Now anyone can do perfect hand-lettering to fit any job. Varigraph letters more than 500 sizes and shapes from each of 113 type style templets. Write today. No obligation. Dept. 71.

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Arthur M. Dickerson, 79, sales representative for the past 20 years of Rapid Roller Co., passed away recently. Mr. Dickerson's territory included large areas of the South, and for some time he covered various Midwest states as well as Chicago. He entered the lithographic industry during the 1890's and has held various positions in plants throughout the U. S.

Offset Duplicator Techniques

Original edition by Richard Caruzzi. Edited and revised by Fred W. Hoch and Carl B. Harris

THE 96 pages of this manual contain 539 items of index information on offset duplicator techniques. Of the 17 chapters, special attention has been given to the revision of those pertaining to photography, chemistry, plates and platemaking, type and typesetting, and preparation of copy. New methods, materials and machines now used have been added to bring the book up to date. More than 100 illustrations accompany the text in explaining the different procedures.

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SATISFACTORY PERFORMANCE of Wood Mats earned us the privilege of serving these leaders.

WOOD FLONG CORPORATION
Mill: Hoosick Falls, N. Y.
New York City Office: 551 Fifth Avenue

Big 3 Clinic

(Continued from Page 39)

packages, mimeograph initial sheets, art reproductions, calendars, greeting cards, sales tax stamps, and candy and beer labels.

Just what does Rotogravure have that gives it its advantages over offset and letterpress?

1. Rotogravure presses are the simplest and have fewest moving parts. The running speed of web gravure presses is only limited by the folder or other inline equipment attached.

2. One gravure press can use dozens of size cylinders of almost infinite choice of diameters.

3. Gravure inks dry quickly by evaporation and absorption, not by slow oxidation. Two and four color presses give better ink trapping.

4. Gravure reproductions are more photographically continuous tone because the variable thickness ink layers cover much more of the paper than variable area letterpress and offset. Six to eight colors are needed by offset to approach good four color gravure. Duotones are usually used to imitate gravure one color results.

5. Gravure retains better quality on cheaper papers.

How about the future? A combination of variable area with variable depth has already proven itself better controlled for corrections and long runs. New simpler methods of achieving this are being patented and could lower cylinder costs. Still quicker and cheaper ways of cylinder production are being used by a few with principally variable dot area. The substitution of much faster silver sensitized gelatine instead of bichromated carbon tissue is currently being tried commercially and will be a big time saver. Presensitized tissues with other chemicals are also being tried. Gravure research is now improving copper plating and etching techniques to lower cylinder reuse costs and improve uniformity.

WOOD AUTOSHAVER MACHINE 22¾"
WOOD PONY AUTOPLATE 22¾"
MONOTYPE GIANT CASTER
MASTER STAINLESS STEEL ETCHER
JOHN GRIFFITHS CO., INC.
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SINGLE COLOR OFFSET PRESS by I. H. Sayre

Offers detailed technical explanation of the operation and adjustment of the small single color offset printing press. Bound in cloth, 284 pages with 99 illustrations. Price, $6. May be ordered from *Printing Equipment Engineer*, 1276 West Third St., Cleveland 13, Ohio.

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Special purpose equipment for the Graphic Arts Industry
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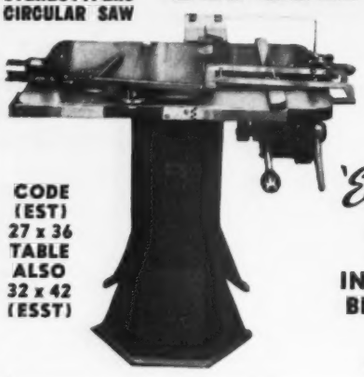
PLATE WORKING MACHINES
SAWS — ROUTERS
MORTISERS

ELECTROMATIC STEREOTYPERS CIRCULAR SAW



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ROUT OUT SMASHES

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A compact, highly efficient metal remelting furnace. Priced surprisingly low and designed to make your remelting and repigging easier at money-saving speed. Available in models from 600-lb. capacity to 10-ton. Write for Bulletins.

NOLAN CORP.
ROME, NEW YORK
Builders of Quality Printing Machinery

Craftsmen's Caucus

(Continued from Page 40)

annual meeting being held two years hence, a member of the Cincinnati, O., Club of Printing House Craftsmen informed the caucus that his city and the Cincinnati Club will extend an invitation at the 1953 Dallas convention for the 1955 Convention.

Participating Craftsmen's Clubs

Plans were discussed at the St. Louis Craftsmen's Convention by a committee headed by Harry B. Friedenberg, Safran Printing Co., Detroit, for bringing interested Graphic Arts executives from foreign countries into the International Assoc. of Printing House Craftsmen. Co-chairman of the committee is Walter Whittum of Springfield, Mass., who will handle correspondence with interested Craftsmen from the Latin America countries. Other members of the committee and the country assigned to each, are as follows: Ted Annen of Detroit, Switzerland and parts of Western Germany; Joe Piper of Detroit, Canada and participating memberships in the United States; Walter Scarborough of Philadelphia, the British Isles; and Andre P. Hagues of Topeka, Kan., France. It was pointed out by Friedenberg that foreign Craftsmen may join the International either individually or in clubs. Participating members will be furnished regular International educational materials, but will not be accorded voting privileges.

ABC of Offset

(Continued from Page 56)

standard dimensions, indicating horizontal and vertical center marks, fold lines, required margins and established work areas. It is only a matter of superimposing the plastic template over a printed sheet to determine whether the position is correct or not. Mis-alignment is immediately evident whether it be in the printed image or the cut of the paper.

If, when ruling the template, certain key lines are marked in graduations and fractions of inches, exact dimensions are easily determined and established.

Such a template can be made to serve a dual purpose if any amount of deep

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for mailing pieces, throw aways, inserts, and all types of form printing

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$.75 per line 1 9/16" wide. Minimum ad 5 lines, 29 characters per line. Cash with order.

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We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

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Salesman — executive type, mature, youthful, aggressive, tactful; versatile experience Graphic Arts Industries in ten East, South, Midwest states. Best references inc. leaders machinery, equipment, inks, supplies, advertising. M. O. Jones, 3909 Windom Place, N. W., Washington 16, D. C.

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16 x 6 New Era printing press with 2 movable type top printers, slitters, punch frames, and automatic rewind.
Must be in good running condition and preferably less than 5 yrs. old. Reply Box 483, Printing Equipment Engineer.

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65c per tube—$5.50 per doz.
$5.00 per doz. in 2 doz. lots.
$4.50 per doz. in gross lots.

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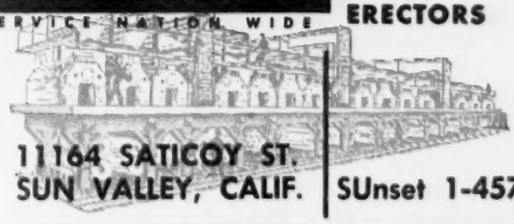

11164 SATICOY ST.
SUN VALLEY, CALIF.
SUnset 1-4575

DISMANTLING • MOVING • ERECTING • REPAIRING

Miehle's Los Angeles Branch—The Miehle Printing Press & Mfg. Co. has announced a new office (top) in Los Angeles located at 1335 Maple Ave., which will serve Southern California, Arizona and Nevada. According to Carlton Mellick, Miehle's Vice Pres. in Charge of Sales, the new branch office provides expansion of the sales, service and parts departments. The lower picture is a view of the branch's new show rooms. The Los Angeles branch was the scene of a recent open house for nearly 600 printers and lithographers from the Southern California area. Representing Miehle during the open house were Chester Endicott, Los Angeles Mgr.; Charles E. Wortman, Asst. Manager; Charles Harwood, Western District Mgr. in Charge of Offset; and Mr. Mellick.

etch printing is done. Fastening the template to the layout or stripping table top, an automatic guide is provided for the correct positioning of deep etch positives. How the positives are assembled is determined by the job requirements and the accepted practices of each individual shop.

Another advantage of the checking template is that no lighting of the layout or stripping table is necessary. The overhead illumination will be found to be sufficient in most instances for either the stripping or checking operations.

For greater accuracy in checking or stripping, it is advisable to use the ruled side of the template as the contact side in all instances.

Limitations

It is assumed that usage of templates and printed layout sheets is fully understood. Remember that these expedients are designed for use with standardized operations only, and constitute a means to enable the layout man to devote more time to the intricacies of complicated and out-of-ordinary layouts which must be treated individually.

Extraordinary Layouts

Extraordinary layouts are those requiring a greater degree of thought and concentration. These include special consideration of tricky arrangements, spacings, paper conservancy, scoring, folding, straight line and die cutting, and other out-of-ordinary finishing operations.

Here we can cite such items as envelopes, greeting cards, labels and cut-out displays where straight line cutting and finishing cannot be utilized.

Layouts of extraordinary nature require the application of precision treatment. An error of the slightest fraction of an inch can result in the scrapping of an entire press run.

A miscalculation of $\frac{1}{16}$ in., one way or another, may mean the difference between clear profit and gross loss in the ledger columns.

Since standardization of extraordinary layouts is almost impossible of attainment, we must be contented with a brief mention of their importance. In the next chapter we will discuss straight line layouts at greater length.

To Be Continued)

ADVERTISERS' INDEX

September 1952

P. E. E. REPRESENTATIVES

WILLIAM L. OSBORN, Eastern Manager, 1712 Grand Central Terminal, New York 17, N. Y. Phone MUrray Hill 6-5980.

MELBURN O. SIMMONS, Mid-West Manager, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

GEORGE GELL, Central District Manager, 1276 West Third St., Cleveland 13, O. Phone CHerry 1-6645.

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STEP UP and CAST FAST WITH A HAMMOND *EasyKaster "8"*

MODEL EK-8P ELECTRIC

HAMMOND *EasyKaster "8"*

- Gas or Electric 800 lb. capacity valve controlled melting pot.
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Gas or Electric 400 lb. Capacity Melting Pot.

Automatic Metal Temperature Control.

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puts white space composition in the black

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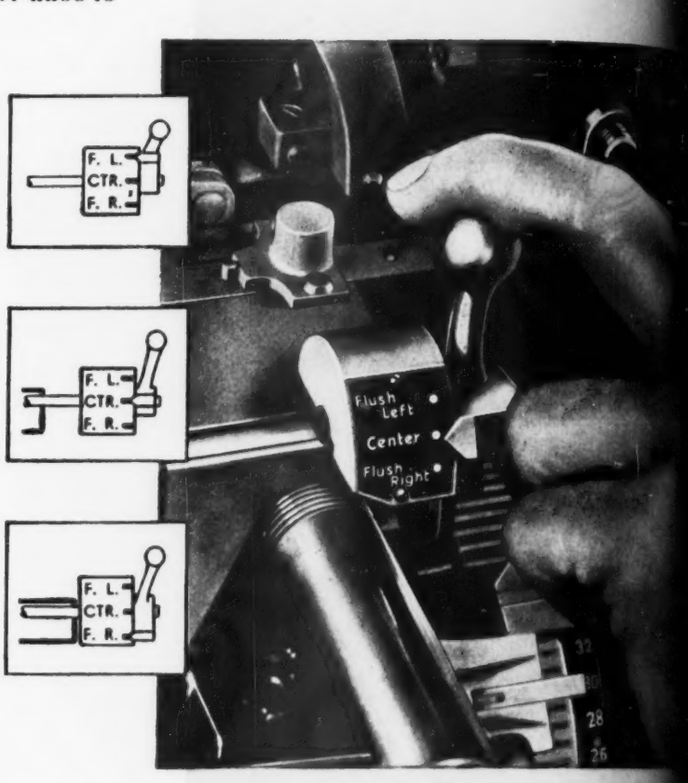
The operator merely sets the handy Autospacer knob to

Quad left

center a line

or quad right



The Autospacer speeds the work because the operator can devote full time to composing *only the actual characters in a line* rather than running in quads from the keyboard.

And here's an important Intertype exclusive: When setting fully justified straight matter, *short lines can be quadded automatically without resetting control knob.*

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